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This is a data report presenting the species and abundance of phytoplankton in the 27 lakes sampled by the National Eutrophication Survey in the State of Indiana. Results from the calculation of several water quality indices are also included (Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and species diversity and abundance indices).

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DISTRIBUTION OF PHYTOPLANKTON IN INDIANA LAKES

by

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FOREWORD

Protection of the environment requires effective regulatory actions which are based on sound technical and scientific information. This information must include the quantitative description and linking of pollutant sources, transport mechanisms, interactions, and resulting effects on man and his environment. Because of the complexities involved, assessment of specific pollutants in the environment requires a total systems approach which transcends the media of air, water, and land. The Environmental Monitoring and Support Laboratory-Las Vegas contributes to the formation and enhancement of a sound monitoring data base for exposure assessment through programs designed to:

- develop and optimize systems and strategies for monitoring pollutants and their impact on the environment
- demonstrate new monitoring systems and technologies by applying them to fulfill special monitoring needs of the Agency's operating programs

This report presents the species and abundance of phytoplankton in the 27 lakes sampled by the National Eutrophication Survey in the State of Indiana, along with results from the calculation of several commonly used biological indices of water quality and community structure. These data can be used to biologically characterize the study lakes, and as baseline data for future investigations. This report was written for use by Federal, State, and local governmental agencies concerned with water quality analysis, monitoring, and/or regulation. Private industry and individuals similarly involved with the biological aspects of water quality will find the document useful. For further information contact the Water and Land Quality Branch, Monitoring Operations Division.

George B. Morgan
Director
Environmental Monitoring and Support Laboratory
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INTRODUCTION

The collection and analysis of phytoplankton data were included in the National Eutrophication Survey in an effort to determine relationships between algal characteristics and trophic status of individual lakes.

During spring, summer, and fall of 1973, the Survey sampled 250 lakes in 17 States. Over 700 algal species and varieties were identified and enumerated from the 743 water samples examined.

This report presents the species and abundance of phytoplankton in the 27 lakes sampled in the State of Indiana (Table 1). The Nygaard's Trophic State (Nygaard 1949), Palmer's Organic Pollution (Palmer 1969), and species diversity and abundance indices are also included.

TABLE 1. LAKES SAMPLED IN THE STATE OF INDIANA

STORET #	LAKE NAME	COUNTY
1805	Cataract Lake	Putnam, Owen
1811	Geist Reservoir	Marion, Hamilton
1817	James Lake	Kosciusko
1827	Mississinewa Reservoir	Miami, Wabash, Grant
1828	Monroe Reservoir	Jackson, Monroe, Brown
1829	Morse Reservoir	Hamilton
1836	Wawasee Lake	Kosciusko
1837	Webster Lake	Kosciusko
1839	Whitewater Lake	Union
1840	Winona Lake	Kosciusko
1841	Westler Lake	Lagrange
1842	Witmer Lake	Lagrange
1843	Lake Maxinkuckee	Marshall

(Continued)

TABLE 1. LAKES SAMPLED IN THE STATE OF INDIANA (Continued)

STORET #	LAKE NAME	COUNTY
1844	Tippecanoe Lake	Kosciusko
1845	Dallas Lake	Lagrange
1846	Olin Lake	Lagrange
1847	Oliver Lake	Lagrange
1848	Sylvan Lake	Noble
1849	Hovey Lake	Posey
1850	Versailles Lake	Ripley
1851	Bass Lake	Starke
1852	Crooked Lake	Steuben
1853	Lake James	Steuben
1854	Long Lake	Steuben
1855	Pigeon Lake	Steuben
1856	Marsh Lake	Steuben
1857	Hamilton Lake	Steuben

MATERIALS AND METHODS

LAKE AND SITE SELECTION

Lakes and reservoirs included in the Survey were selected through discussions with State water pollution agency personnel and U.S. Environmental Protection Agency Regional Offices (U.S. Environmental Protection Agency 1975). Screening and selection strongly emphasized lakes with actual or potential accelerated eutrophication problems. As a result, the selection was limited to lakes:

(1) impacted by one or more municipal sewage treatment plant outfalls either directly into the lake or by discharge to an inlet tributary within approximately 40 kilometers of the lake;

(2) 40 hectares or larger in size; and

(3) with a mean hydraulic retention time of at least 30 days.

Specific selection criteria were waived for some lakes of particular State interest.

Sampling sites for a lake were selected based on available information on lake morphometry, potential major sources of nutrient input, and on-site judgment of the field limnologist (U.S. Environmental Protection Agency 1975). Primary sampling sites were chosen to reflect the deepest portion of each major basin in a test lake. Where many basins were present, selection was guided by nutrient source information on hand. At each sampling site, a depth-integrated phytoplankton sample was taken. Depth-integrated samples were uniform mixtures of water from the surface to a depth of 15 feet (4.6 meters) or from the surface to the lower limit of the photic zone representing 1 percent of the incident light, whichever was greater. If the depth at the sampling site was less than 15 feet (4.6 meters), the sample was taken from just off the bottom to the surface. Normally, a lake was sampled three times in 1 year, providing information on spring, summer, and fall conditions.

SAMPLE PREPARATION

To preserve the sample 4 milliliters (ml) of Acid-Lugol's solution (Prescott 1970) were added to each 130-ml sample from each site at the time of collection. The samples were shipped to the Environmental Monitoring and Support Laboratory, Las Vegas, Nevada, where equal volumes from each site were mixed to form two 130-ml composite samples for a given lake. One composite sample was put into storage and the other was used for the examination.

Prior to examination, the composite samples were concentrated by the settling method. Solids were allowed to settle for at least 24 hours prior to siphoning off the supernate. The volume of the removed supernate and the volume of the remaining concentrate were measured and concentrations determined. A small (8-ml) library subsample of the concentrate was then taken. The remaining concentrate was gently agitated to resuspend the plankton and poured into a capped, graduated test tube. If a preliminary examination of a sample indicated the need for a more concentrated sample, the contents of the test tube were further concentrated by repeating the settling method. Final concentrations varied from 15 to 40 times the original.

Permanent slides were prepared from concentrated samples after analysis was complete. A drop of superconcentrate from the bottom of the test tube was placed in a ring of clear Karo® Corn Syrup with phenol (a few crystals of phenol were added to each 100 ml of syrup) on a glass slide, thoroughly mixed, and topped with a coverglass. After the syrup at the edges of the coverglass had hardened, the excess was scraped away and the mount was sealed with clear fingernail polish. Permanent diatom slides were prepared by drying sample material on a coverglass, heating in a muffle furnace at 400° C for 45 minutes, and mounting in Hyrax®. Finally, the mounts were sealed with clear fingernail polish.

Backup samples, library samples, permanent sample slides, and Hyrax®mounted diatom slides are being stored and maintained at the Environmental Monitoring and Support Laboratory-Las Vegas.

EXAMINATION

The phytoplankton samples were examined with the aid of binocular compound microscopes. A preliminary examination was performed to precisely identify and list all forms encountered. The length of this examination varied depending on the complexity of the sample. An attempt was made to find and identify all of the forms present in each sample. Often forms were observed which could not be identified to species or to genus. Abbreviated descriptions were used to keep a record of these forms (e.g., lunate cell, blue-green filament, Navicula #1). Diatom slides were examined using a standard light microscope. If greater resolution was essential to accurately identify the diatoms, a phase-contrast microscope was used.

After the species list was compiled, phytoplankton were enumerated using a Neubauer Counting Chamber with a 40X objective lens and a 10X ocular lens. All forms within each field were counted. The count was continued until a minimum of 100 fields had been viewed, or until the dominant form had been observed a minimum of 100 times.

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QUALITY CONTROL

Internal quality control intercomparisons on species identifications and counts were performed on a regular basis among project phycologists at the rate of 7 percent. Although an individual had primary responsibility for analyzing a sample, taxonomic problems were discussed among the phycologists.

Additional quality control checks were performed on the Survey samples by Dr. G. W. Prescott of the University of Montana at the rate of 5 percent. Quality control checks were made on 75 percent of these samples to verify species identifications while checks were made on the remaining 25 percent of the samples to verify genus counts. Presently, the agreement between quality control checks for species identification and genus enumerations is satisfactory.

RESULTS

The Appendix summarizes all of the phytoplankton data collected from the State by the Survey. It is organized by lake and includes an alphabetical phytoplankton species list with concentrations for individual species given by sampling date. Results from the application of several indices are presented (Nygaard's Trophic State, Palmer's Organic Pollution, and species diversity and abundance). Each lake has been assigned a four-digit STORET number. [STORET (STOrage and RETrieval) is the U.S. Environmental Protection Agency's computer system which processes and maintains water quality data.] The first two digits of the STORET number identify the State; the last two digits identify the lake.

NYGAARD'S TROPHIC STATE INDICES

Five indices devised by Nygaard (1949) were proposed under the assumption that certain algal groups are indicative of levels of nutrient enrichment. These indices were calculated in order to aid in determining the surveyed lakes' trophic status. As a general rule, Cyanophyta, Euglenophyta, centric diatoms, and members of the Chlorococcales are found in waters that are eutrophic (rich in nutrients), while desmids and many pennate diatoms generally cannot tolerate high nutrient levels and so are found in oligotrophic waters (poor in nutrients).

In applying the indices to the Survey data, the number of taxa in each major group was determined from the species list for each sample. The ratios of these groups give numerical values which can be used as a biological index of water richness. The five indices and the ranges of values established for Danish lakes by Nygaard for each trophic state are presented in Table 2. The appropriate symbol, (E) eutrophic and (O) oligotrophic, follows each calculated value in the tables in the Appendix. A question mark (?) following a calculated value in these tables was entered when that value was within the range of both classifications.

PALMER'S ORGANIC POLLUTION INDICES

Palmer (1969) analyzed reports from 165 authors and developed algal pollution indices for use in rating water samples with high organic pollution. Two lists of organic-pollution-tolerant forms were prepared, one containing 20 genera, the other, 20 species (Tables 3 and 4). Each form was assigned a pollution index number ranging from 1 for moderately tolerant forms to 6 for extremely tolerant forms. Palmer based the index numbers on occurrence records and/or where emphasized by the authors as being especially tolerant of organic pollution.

TABLE 2. NYGAARD'S TROPHIC STATE INDICES ADAPTED FROM HUTCHINSON (1967)

Index	Calculation	Oligotrophic	Eutrophic
Myxophycean	$\frac{\text{Myxophyceae}}{\text{Desmideae}}$	0.0-0.4	0.1-3.0
Chlorophycean	$\frac{\text{Chlorococcales}}{\text{Desmideae}}$	0.0-0.7	0.2-9.0
Diatom	$\frac{\text{Centric Diatoms}}{\text{Pennate Diatoms}}$	0.0-0.3	0.0-1.75
Euglenophyte	$\frac{\text{Euglenophyta}}{\text{Myxophyceae + Chlorococcales}}$	0.0-0.2	0.0-1.0
Compound	$\frac{\text{Myxophyceae + Chlorococcales + Centric Diatoms + Euglenophyta}}{\text{Desmideae}}$	0.0-1.0	1.2-25

TABLE 3. ALGAL GENUS POLLUTION INDEX (Palmer 1969)

Genus	Pollution Index
Anacystis	1
Ankistrodesmus	2
Chlamydomonas	4
Chlorella	3
Closterium	1
Cyclotella	1
Euglena	5
Gomphonema	1
Lepocinclis	1
Melosira	1
Micractinium	1
Navicula	3
Nitzschia	3
Oscillatoria	5
Pandorina	1
Phacus	2
Phormidium	1
Scenedesmus	4
Stigeoclonium	2
Synedra	2

TABLE 4. ALGAL SPECIES POLLUTION INDEX (Palmer 1969)

Species	Pollution Index
Ankistrodesmus falcatus	3
Arthrospira jenneri	2
Chlorella vulgaris	2
Cyclotella meneghiniana	2
Euglena gracilis	1
Euglena viridis	6
Gomphonema parvulum	1
Melosira varians	2
Navicula cryptocephala	1
Nitzschia acicularis	1
Nitzschia palea	5
Oscillatoria chlorina	2
Oscillatoria limosa	4
Oscillatoria princeps	1
Oscillatoria putrida	1
Oscillatoria tenuis	4
Pandorina morum	3
Scenedesmus quadricauda	4
Stigeoclonium tenue	3
Syndra ulna	3

In analyzing a water sample, any of the 20 genera or species of algae present in concentrations of 50 per milliliter or more are recorded. The pollution index numbers of the algae present are totaled, providing a genus score and a species score. Palmer determined that a score of 20 or more for either index can be taken as evidence of high organic pollution, while a score of 15 to 19 is taken as probable evidence of high organic pollution. Lower figures suggest that the organic pollution of the sample is not high, that the sample is not representative, or that some substance or factor interfering with algal persistence is present and active.

SPECIES DIVERSITY AND ABUNDANCE INDICES

"Information content" of biological samples is being used commonly by biologists as a measure of diversity. Diversity in this connection means the degree of uncertainty attached to the specific identity of any randomly selected individual. The greater the number of taxa and the more equal their proportions, the greater the uncertainty, and hence, the diversity (Pielou 1966). There are several methods of measuring diversity, e.g., the formulas given by Brillouin (1962) and Shannon and Weaver (1963). The method which is appropriate depends on the type of biological sample on hand.

Pielou (1966) classifies the types of biological samples and gives the measure of diversity appropriate for each type. The Survey phytoplankton samples are what she classifies as larger samples (collections in Pielou's terminology) from which random subsamples can be drawn. According to Pielou, the average diversity per individual (H) for these types of samples can be estimated from the Shannon-Wiener formula (Shannon and Weaver 1963):

$$H = -\sum_{i=1}^{S} P_i \log_x P_i$$

where P is the proportion of the ith taxon in the sample, which is calculated from n_i/N; n_i is the number of individuals per milliliter of the ith taxon; N is the total number of individuals per ml; and S is the total number of taxa.

However, Basharin (1959) and Pielou (1966) have pointed out that H calculated from the subsample is a biased estimator of the sample H, and if this bias is to be accounted for, we must know the total number of taxa present in the sample since the magnitude of this bias depends on it.

Pielou (1966) suggests that if the number of taxa in the subsample falls only slightly short of the number in the larger sample, no appreciable error will result in considering S, estimated from the subsample, as being equal to the sample value. Even though considerable effort was made to find and identify all taxa, the Survey samples undoubtedly contain a fair number of rare phytoplankton taxa which were not encountered.

In the Shannon-Wiener formula, an increase in the number of taxa and/or an increase in the evenness of the distribution of individuals among taxa will increase the average diversity per individual from its minimal value of zero. Sager and Hasler (1969) found that the richness of taxa was of minor importance in determination of average diversity per individual for phytoplankton and they concluded that phytoplankton taxa in excess of the 10 to 15 most abundant ones have little effect on H. This was verified by our own calculations. Our counts are in number per milliliter and since logarithms to the base 2 were used in our calculations, H is expressed in units of bits per individual. When individuals of a taxon were so rare that they were not counted, a value of 1/130 per milliliter or 0.008 per milliliter was used in the calculations since at least one individual of the taxon must have been present in the collection.

A Survey sample for a given lake represents a composite of all phytoplankton collected at different sampling sites on a lake during a given sampling period. Since the number of samples (M) making up a composite is a function of both the complexity of the lake sampled and its size, it should affect the richness-of-taxa component of the diversity of our phytoplankton collections. The maximum diversity (MaxH) (i.e., when the individuals are distributed among the taxa as evenly as possible) was estimated from $\log_2 S$, the total diversity (D) was calculated from HN, and the evenness component of diversity (J) was estimated from H/MaxH (Pielou 1966). Also given in the Appendix are L (the mean number of individuals per taxa per milliliter) and K (the number of individuals per milliliter of the most abundant taxon in the sample).

Zand (1976) suggests that diversity indices be expressed in units of "sits", i.e., in logarithms to base S (where S is the total number of taxa in the sample) instead of in "bits", i.e., in logarithms to base 2. Zand points out that the diversity index in sits per individual is a normalized number ranging from 1 for the most evenly distributed samples to 0 for the least evenly distributed samples. Also, it can be used to compare different samples, independent of the number of taxa in each. The diversity in bits per individual should not be used in direct comparisons involving various samples which have different numbers of species. Since MaxH equals log S, the expression in sits is equal to $\log_S S$, or 1. Therefore diversity in sits per individual is numerically equivalent to J, the evenness component for the Shannon-Wiener formula.

SPECIES OCCURRENCE AND ABUNDANCE

The alphabetic phytoplankton species list for each lake, presented in the Appendix, gives the concentrations of individual species by sampling date. Concentrations are in cells, colonies, or filaments (CEL, COL, FIL) per milliliter. An "X" after a species name indicates the species identified in the preliminary examination was in such a low concentration that it did not appear in the count. A blank space indicates that the organism was not found in the sample collected on that date. Column S is used to designate the examiner's subjective opinion of the five dominant taxa in a sample, based upon relative size and concentration of the organism. The percent column (%C) presents, by abundance, the percentage composition of each taxon.

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APPENDIX. SUMMARY OF PHYTOPLANKTON DATA

This appendix was generated by computer. Because it was only possible to use upper case letters in the printout, all scientific names are printed in upper case and are not italicized.

The alphabetic phytoplankton lists include taxa without species names (e.g., EUNOTIA, EUNOTIA #1, FLAGELLATE, FLAGELLATES, MICROCYSTIS INCERTA ?, CHLOROPHYTAN COCCOID CELLED COLONY). When species determinations were not possible, symbols or descriptive phrases were used to separate taxa for enumeration purposes. Each name on a list, however, represents a unique species different from any other name on the same list, unless otherwise noted, for counting purposes.

Numbers were used to separate unidentified species of the same genus. A generic name listed alone is also a unique species. A question mark (?) is placed immediately after the portion of a name which was assigned with uncertainty. Numbered, questioned, or otherwise designated taxa were established on a lake-by-lake basis; therefore NAVICULA #2 from lake A cannot be compared to NAVICULA #2 from lake B. Pluralized categories (e.g., FLAGELLATES, CENTRIC DIATOMS, SPP.) were used for counting purposes when taxa could not be properly differentiated on the counting chamber.

LAKE NAME: CATARACT LAKE
STORET NUMBER: 1805

NYGAARD TROPHIC STATE INDICES

DATE	05 10 73	08 09 73	10 10 73
MYXOPHYCEAN	1.00 E	6.00 E	2.33 E
CHLOROPHYCEAN	3.00 E	3.00 E	1.67 E
EUGLENOPHYTE	0.25 E	0.22 E	0.42 E
DIATOM	0.37 E	0.50 E	3.00 E
COMPOUND	8.00 E	16.0 E	6.67 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 10 73	08 09 73	10 10 73
GENUS	05	06	07
SPECIES	01	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 10 73	08 09 73	10 10 73
AVERAGE DIVERSITY	H	0.78	3.13	2.36
NUMBER OF TAXA	S	27.00	30.00	27.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.75	4.91	4.75
TOTAL DIVERSITY	D	7144.80	5583.92	9527.32
TOTAL NUMBER OF INDIVIDUALS/ML	N	9160.00	1784.00	4037.00
EVENESS COMPONENT	J	0.16	0.64	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	339.26	59.47	149.52
NUMBER/ML OF MOST ABUNDANT TAXON	K	8153.00	430.00	1957.00

LAKE NAME: CATARACT LAKE
STORET NUMBER: 1805

CONTINUED

TAXA	FORM	05 10 73			08 08 73			10 10 73		
		S	SC	ALGAL UNITS PER ML	S	SC	ALGAL UNITS PER ML	S	SC	ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	COL						X			
ANABAENA #1	FIL				5	6.2	111	4	6.4	260
ANABAENA #2	FIL				1	20.5	366	3	12.9	520
ANABAENA #3	FIL									X
ANKISTRODESMUS	COL								0.9	35
APHANIZOMENON FLOS-AQUAE	FIL				4	12.5	223	1	48.5	1957
ASTERIONELLA FORMOSA	COL	3	2.8	256						
BOTRYOCOCCUS BRAUNII	COL									X
CENTRIC DIATOMS	COL	1	99.0	8159						
CERATIUM HIRUNDINELLA	COL									X
CLOSTERIUM #1	COL			X						
CLOSTERIUM #2	COL								1.3	52
COCCOID COLONY	COL			X						
COCCONEIS PLACENTULA V. EUGLYPTA	COL						X			
COELASTRUM RETICULATUM	COL						X			X
COELOSPHAERIUM NAEGELIANUM	COL									X
COSMARIUM	COL									X
CRUCIGENIA APICULATA	COL			X						
CRYPTOMONAS	COL	4	2.0	183		0.9	16			
CYCLOTELLA MENEGHINIANA	COL						X			
CYCLOTELLA STELLIGERA	COL						X		2.6	104
DINOBRYON BAVARICUM	COL			X						
DINOBRYON DIVERGENS	COL			X						
DINOFLAGELLATE	COL			X			X		0.9	35
EUDORINA ELEGANS	COL			X						
EUGLENA	COL									X
EUGLENA ACUS	COL									X
FLAGELLATE #3	COL			X						
FLAGELLATE #9	COL	1	1.0	92						
FLAGELLATES	COL	2	3.2	293		3.6	64	1	4.7	191
FRAGILARIA	COL			X						
GOMPHONEMA	COL						X			
GYROSIGMA SCALPROIDES	COL						X			
LYNGBYA	FIL			X						
MELOSIRA	COL									X
MELOSIRA GRANULATA	COL				3	14.3	255		0.9	35
MELOSIRA GRANULATA V. ANGUSTISSIMA	COL			X		7.1	127			
MELOSIRA VARIANS	COL			X						
MICROCYSTIS AERUGINOSA	COL						X			
NAVICULA	COL			X						
NAVICULA RHYNCHOCEPHALA V. GERMAINII	COL						X			
NITZSCHIA	COL						X			
NITZSCHIA #1	COL					0.9	16			
NITZSCHIA ACICULARIS	COL		1.0	92		1.8	32			
OOCYSTIS	COL			X						
OSCILLATORIA LIMNETICA	FIL								1.7	69
OSCILLATORIA LIMNETICA ?	FIL					2.7	48			
OSCILLATORIA TENUIS	FIL				2	24.1	430	2	18.5	743
PANDORINA MORUM	COL		0.2	18						
PEDIASTRUM CUPLEX V. RETICULATUM	COL						X			
PENNATE	COL					1.8	32			
PENNATE DIATOM	COL			X						
PHACUS	COL									X
PHACUS ACUMINATUS	COL						X			
PHACUS PELIKOIDES	COL									X
PHOTOSPHENIA CURVATA	COL			X						
SCENEDESMUS	COL					0.9	16			
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL									X
SPHAEROCYSTIS SCHROETERI	COL								0.4	17
STAURASTRUM #1	COL					0.9	16			X
STEPHANODISCUS	COL					1.8	32			
SYNEDRA #2	COL		0.6	55						
SYNEDRA DELICATISSIMA	COL		0.2	18			X		0.4	17
TETRASTRUM STAUROGENIAEFORME	COL			X						
TRACHELOMONAS	COL			X						
TRACHELOMONAS PULCHELLA	COL									X
TRACHELOMONAS URCEOLATA	COL						X			
TOTAL				9160			1784			4037

LAKE NAME: GEIST RES.
STORET NUMBER: 1811

NYGAARD TROPHIC STATE INDICES

DATE	05 10 73	08 02 73	10 15 73
MYXOPHYCEAN	6.00 E	7.00 E	6.50 E
CHLOROPHYCEAN	16.0 E	1[illegible].0 E	10.5 E
EUGLENOPHYTE	0.14 7	0.36 E	0.21 E
DIATOM	0.38 E	1.29 E	1.50 E
COMPOUND	30.0 E	39.0 E	25.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 10 73	08 02 73	10 15 73
GENUS	22	22	29
SPECIES	04	03	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 10 73	08 02 73	10 15 73
AVERAGE DIVERSITY	H	4.28	2.79	3.27
NUMBER OF TAXA	S	55.00	55.00	66.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.78	5.78	6.04
TOTAL DIVERSITY	D	48351.16	88691.31	116670.33
TOTAL NUMBER OF INDIVIDUALS/ML	N	11297.00	31789.00	35679.00
EVENESS COMPONENT	J	0.74	0.48	0.54
MEAN NUMBER OF INDIVIDUALS/TAXA	L	205.40	577.98	540.59
NUMBER/ML OF MOST ABUNDANT TAXON	K	1277.00	11605.00	14908.00

LAKE NAME: GEIST RES.
STORET NUMBER: 1611

CONTINUED

TAXA	FORM	05 10 73			08 02 73			10 15 73		
		IS	BC	ALGAL UNITS PER ML	IS	BC	ALGAL UNITS PER ML	IS	BC	ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL								0.1	50
ACTINASTRUM GRACILIMUM	CEL		2.0	225						
ANABAENA	FIL					0.6	189		0.8	298
ANABAENOPSIS PHILIPPINENSIS	FIL								1.3	447
ANKISTRODESMUS	CEL								0.8	298
ANKISTRODESMUS ?	CEL		1.9	210						
ANKISTRODESMUS FALCATUS	CEL					0.4	142			
APHANIZOMENON FLOS-AQUAE	FIL									X
ASTERIONELLA FORMOSA	CEL	11	8.4	947						
CENTRIC DIATOMS	CEL				2	36.5	11605	1	41.8	14908
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL				5	0.9	284		0.3	99
CHLOROGONIUM ELONGATUM	CEL									X
CHRYSOCOCCUS	COL						X			
CLOSTERIUM	CEL			X					0.3	99
COCCONEIS PLACENTULA	CEL									X
COCCONEIS PLACENTULA V. EUGLYPTA	CEL						X			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL								0.4	149
COELASTRUM MICROPORUM	COL		0.4	45						
COELASTRUM RETICULATUM	COL									X
COELASTRUM SPHAERICUM	COL					0.1	47			
COSCINODISCUS	CEL									X
COSMARIUM	CEL						X			
COSMARIUM #1	CEL									X
CRUCIGENIA APICULATA	COL									X
CRUCIGENIA QUADRATA	COL			X						
CRUCIGENIA TETRAPEDIA	COL		0.1	15		0.6	189		0.3	99
CRYPTOMONAS	CEL	5	3.3	376		0.3	95			
CRYPTOMONAS EROSA	CEL			X						
CYCLOTELLA	CEL		11.3	1277			X			X
CYCLOTELLA MENEGHINIANA	CEL						X			X
CYCLOTELLA STELLIGERA	CEL						X			X
CYMBELLA	CEL		0.1	15						X
CYMBELLA TURGIDA	CEL						X			
DACTYLOCOCCOPSIS	CEL		8.8	992		0.4	142			X
DACTYLOCOCCOPSIS IRREGULARIS	COL						X		1.8	646
DICTYOSPHAERIUM PULCHELLUM	CEL	4	5.9	661					1.1	398
DINOBRYON	CEL			X						
DINOBRYON SOCIALE V. AMERICANUM	CEL		0.4	45						
DINOFLAGELLATE CYST	CEL								0.7	248
EUGLENA	CEL					0.6	189			
EUGLENA #1	CEL					1.2	379			
EUGLENA #2	CEL						X			
EUGLENA ACUS	CEL			X						
EUGLENA ELASTICA	FIL			X						
FILAMENT	CEL		2.9	331	3	23.7	7531			
FLAGELLATE #1	CEL		2.1	240					1.1	398
FLAGELLATE #2	CEL				14	6.4	2048	3	9.8	3479
FLAGELLATES	CEL		2.5	285						
FRAGILARIA CAPUCINA	CEL					0.4	142			
GLENODINIUM GYMNODINIUM V. BISCUTELLIFORME	CEL					0.9	284		0.3	99
GLENODINIUM PENARDIFORME	CEL		0.1	15			X			
GOMPHONEMA	CEL			X						
GOMPHONEMA ANGUSTATUM V. PRODUCTA	COL									X
GOMPHOSPHAERIA LACUSTRIS	CEL		0.3	30						
GYMNODINIUM	COL		3.9	436					0.1	50
KIRCHNERIELLA	CEL									X
LAGERHEIMIA	CEL		0.1	15						
LAGERHEIMIA CILIATA										

LAKE NAME: GRIST RES.
STORET NUMBER: 1811

CONTINUED

TAXA	PORM	05 10 73 IS	05 10 73 SC	05 10 73 ALGAL UNITS PER ML	08 02 73 IS	08 02 73 SC	08 02 73 ALGAL UNITS PER ML	10 15 73 IS	10 15 73 SC	10 15 73 ALGAL UNITS PER ML
LAGERHEIMIA QUADRISETA	CEL			X						
LEPOCINCLIS	CEL									X
LYNGBYA	FIL		3.2	361						
LYNGBYA LIMNETICA	FIL								3.0	1942
MALLOMONAS	CEL		0.5	60						
MALLOMONAS ACARCIDES	CEL									X
MELOSIRA #4	CEL		4.7	526					0.3	99
MELOSIRA DISTANS	CEL	13	10.9	1232		4.3	1376	12	13.2	4721
MELOSIRA GRANULATA	CEL		0.4	45			X			X
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL						X			
MELOSIRA ITALICA	CEL				11	17.3	3494			
MERISMOPEDIA TENUISSIMA	COL		1.9	165		0.9	99	14	5.3	1888
MESOSTIGMA	CEL								0.1	50
MICRACTINIUM PUSILLUM	COL									X
MICROCYSTIS	COL					0.3	99			
MICROCYSTIS INCERTA	COL		0.9	105			X		1.0	348
MOUGEOTIA	FIL								0.4	149
NAVICULA	CEL						X		0.1	50
NAVICULA #2	CEL			X						
NAVICULA #3	CEL			X						
NAVICULA SPP.	CEL		0.7	75						
NITZSCHIA	CEL		5.9	616			X		1.5	547
NITZSCHIA #1	CEL			X						
NITZSCHIA #2	CEL			X						
NITZSCHIA HELSATICA	CEL			X						
OSCILLATORIA	FIL			X						
OSCILLATORIA #1	FIL						X		1.7	596
OSCILLATORIA #2	FIL								2.8	994
OSCILLATORIA #3	FIL					0.3	99		2.1	745
OSCILLATORIA LIMNETICA	FIL		0.9	189						
PEDIASTRUM DUPLEX V. 9	COL					0.1	47			
PEDIASTRUM DUPLEX V. RETICULATUM	COL									X
PEDIASTRUM SIMPLEX V. DUCDENARIUM	COL						X			
PENNATE DIATOMS	CEL					0.6	189			
PERIDINIUM	CEL					0.1	47			
PHACUS	CEL						X			
PHACUS ACUMINATUS	CEL			X					0.1	50
PHACUS HELIKOIDES	CEL						X			
PHACUS PYRUM	CEL					0.6	189			X
RAPHIDIOPSIS CURVATA	FIL								1.3	447
SCENEDESMUS	COL					0.1	47			
SCENEDESMUS ABUNDANS	COL					0.3	99		0.1	50
SCENEDESMUS ARCUATUS V. PLATYDISCA	COL									X
SCENEDESMUS BICAUDATUS	COL			X						X
SCENEDESMUS BIJUGA	COL		0.9	105						X
SCENEDESMUS DENTICULATUS	COL					0.1	47			
SCENEDESMUS DIMORPHUS	COL			X			X			X
SCENEDESMUS PROTUBERANS	COL					0.4	142		0.3	99
SCENEDESMUS QUADRICAUDA	COL		0.8	90		0.1	47		0.7	249
SCHROEDERIA SETIGERA	CEL			X			X			
STEPHANODISCUS	CEL	12	7.4	841			X			X
SYNEDRA	CEL							15	4.0	1441
SYNEDRA ACUS 9	CEL					1.3	426			
SYNEDRA SPP.	CEL		6.8	751						
SYNEDRA ULNA	CEL			X						
TETRAEDRON	CEL									X
TETRAEDRON 9	CEL						X			
TETRAEDRON MINIMUM	CEL					0.1	47			X
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL		0.1	15						X
TETRASTRUM STAUROGENIAEFORME	COL		0.4	45						X
TRACHELOMONAS PULCHELLA	CEL			X			X			X
TRACHELOMONAS URCEOLATA	CEL					0.1	47		0.1	50
TRACHELOMONAS VELVOCINA	COL									X
TREUBARIA SETIGERUM	CEL			X						
TOTAL				11267			31780			38679

LAKE NAME: JAMES LAKE
STORET NUMBER: 1817

NYGAARD TROPHIC STATE INDICES

DATE	08 04 73	10 13 73
MYXOPHYCEAN	5.00 E	2.33 E
CHLOROPHYCEAN	3.50 E	4.00 E
EUGLENOPHYTE	0/17 ?	0.16 ?
DIATOM	0.75 E	1.33 E
COMPOUND	10.0 E	8.57 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 04 73	10 13 73
GENUS	17	12
SPECIES	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 04 73	10 13 73
AVERAGE DIVERSITY	H	3.84	3.07
NUMBER OF TAXA	S	34.00	42.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	5.09	5.39
TOTAL DIVERSITY	D	16730.88	7791.66
TOTAL NUMBER OF INDIVIDUALS/ML	N	4357.00	2538.00
EVENESS COMPONENT	J	0.75	0.57
MEAN NUMBER OF INDIVIDUALS/TAXA	L	128.15	60.43
NUMBER/ML OF MOST ABUNDANT TAXON	K	685.00	984.00

LAKE NAME: JAMES LAKE
STORET NUMBER: 1017

CONTINUED

TAXA	FORM	08 04 73 IS	08 04 73 BC	08 04 73 ALGAL UNITS PER ML	10 13 73 IS	10 13 73 BC	10 13 73 ALGAL UNITS PER ML
ANABAENA	FIL		0.4	35		1.4	35
ANKISTRODESMUS	COL						X
APHANIZOMENON FLOS-AQUAE	FIL	1	15.7	605		1.4	35
APHANOTHECE	COL		1.2	53			
APHANOTHECE NIDULANS	COL			X			
ASTERIONELLA FORMOSA	COL			X			
OCTOCOCCUS BRAUNII	COL						X
CENTRIC DIATOM	COL						X
CERATIUM HIRUNDINELLA	COL			X			X
CHLAMYDOMONAS	COL			X			X
CLOSTERIUM	COL		0.4	18		1.4	35
COELASTRUM RETICULATUM	COL			X			
COSMARIUM	COL		2.0	88		0.7	17
CRUCIGENIA APICULATA	COL						X
CRUCIGENIA TETRAPEDIA	COL		4.0	211		0.7	17
CRYPTOMONAS	COL		2.8	123		3.4	86
CRYPTOMONAS ROSTA	COL			X			
CYCLOTELLA	COL	9	10.9	457			
CYCLOTELLA MENEGHINIANA	COL			X			
DICTYOSPHAERIUM PULCHELLUM	COL						X
DINOBRYON BAVARICUM	COL		4.4	193			
DINOBRYON SOCIALE V. AMERICANUM	COL				3	10.2	259
ELAKATOTHRIX	COL					0.7	17
EUGLENA	COL						X
FLAGELLATE #1	COL				1	36.8	934
FLAGELLATE #2	COL		9.6	246			
FLAGELLATE #3	COL					0.7	17
GLOEOSPHAERIA	COL		2.0	88			
GLOEOSPHAERIA LACUSTRIS	COL						X
GLOEOSPHAERIA LACUSTRIS ? V. COMPACTA	COL			X			
LAGERHEIMIA	COL						X
LAGERHEIMIA LONGISETA	COL		0.8	35			
LEPOCINCLIS	COL						X
LYNGBYA	FIL	3	7.7	334	2	15.4	397
LYNGBYA BIRGEI	FIL					0.7	17
MALLOMONAS	COL		0.8	35			
MELOSIRA #4	COL		4.8	211			
MELOSIRA ITALICA	COL				3	4.8	121
MICROCYSTIS AERUGINOSA	COL						X
MICROCYSTIS INCERTA	COL	2	13.7	597			
MOUGEOTIA	FIL						X
NAVICULA	COL		1.2	53			X
OOCYSTIS	COL		0.8	35			X
PHIOCYTIUM	COL						X
OSCILLATORIA	FIL		1.6	70			
OSCILLATORIA TENUIS	FIL					0.4	155
OSCILLATORIA TENUIS ?	FIL			X			
PERIDINIUM	COL		0.4	18			
PERIDINIUM INCONSPICUUM	COL					1.4	35
PERIDINIUM QUADRIDENS	COL					0.7	17
PHACUS PYRUM	COL						X
SCENEDESMUS BIJUGA	COL	4	12.9	564		4.8	121
SCENEDESMUS QUADRICAUDA	COL						X
SCENEDESMUS QUADRICAUDA V. PARVUS	COL			X			
STAURASTRUM	COL						X
STEPHANODISCUS #1	COL					2.0	52
STEPHANODISCUS #2	COL						X
SYNEDRA	COL						X
SYNEDRA ?	COL		4.4	193			
SYNEDRA #1	COL					4.8	121
SYNEDRA ULNA	COL			X			
TETRAEDRON MINIMUM V. SCROBICULATUM	COL		0.8	35			X
TRIBONEMA TRIAPPENDICULATA	COL						X
TOTAL				4387			2534

LAKE NAME: MISSISSINEWA RES.
STORET NUMBER: 1827

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 03 73	10 15 73
MYXOPHYCEAN	2.00 E	01/0 E	4.00 E
CHLOROPHYCEAN	2.00 E	02/0 E	4.00 E
EUGLENOPHYTE	0.50 E	0.67 E	0.25 E
DIATOM	0.23 ?	1.00 E	1.00 E
COMPOUND	9.00 E	10/0 E	16.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 03 73	10 15 73
GENUS	04	08	09
SPECIES	02	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 03 73	10 15 73
AVERAGE DIVERSITY	H	2.72	3.01	1.50
NUMBER OF TAXA	S	31.00	19.00	24.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.95	4.25	4.58
TOTAL DIVERSITY	D	6196.16	2411.01	19119.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	2278.00	801.00	12746.00
EVENESS COMPONENT	J	0.55	0.71	0.33
MEAN NUMBER OF INDIVIDUALS/TAXA	L	73.48	42.16	531.08
NUMBER/ML OF MOST ABUNDANT TAXON	K	619.00	256.00	8752.00

LAKE NAME: MISSISSINEWA RES. CONTINUED
STORET NUMBER: 1827

TAXA	FORM	05 03 73 S	05 03 73 %C	05 03 73 ALGAL UNITS PER ML	08 03 73 S	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 15 73 S	10 15 73 %C	10 15 73 ALGAL UNITS PER ML
ANKISTRODESMUS	CEL							5	2.4	304
ANKISTRODESMUS FALCATUS	CEL			X		2.1	17			
ASTERIONELLA FORMOSA	CEL	3	14.6	332						
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL						X			
CHRYSOPHYTAN CYST #1	CEL						X			
CLOSTERIUM	CEL			X						X
CRUCIGENIA TETRAPEDIA	COL					2.1	17			
CRYPTOMONAS CURVATA	CEL		2.0	45						
CRYPTOMONAS EROSA	CEL	1	27.2	619					0.4	57
CRYPTOMONAS EROSA V. REFLEXA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL	2	20.5	468						
CYCLOTELLA STELLIGERA	CEL								1.8	228
CYMBELLA VENTRICOSA	CEL			X						
DACTYLOCOCCOPSIS IRREGULARIS	CEL		1.3	30						X
DIATOMA VULGARE	CEL						X			
DINOBRYON DIVERGENS	CEL			X						
EUGLENA	CEL		0.7	15						
EUGLENA #1	CEL			X						
EUGLENA #2	CEL					4.2	34	4	1.8	228
EUGLENA OXYURIS	CEL						X			
EUNOTIA CURVATA	CEL			X						
FLAGELLATE #1	CEL	5	22.5	513						
FLAGELLATE #2	CEL			X						
GLENODINIUM OCULATUM	CEL						X			
GOMPHONEMA CLIVACEUM	CEL			X						
GYMNODINIUM ALBULUM	CEL		4.0	91						
LYNGBYA LIMNETICA	FIL			X						
MALLOMONAS ACAROIDES	CEL					4.2	34			
MELOSIRA #4	CEL		1.3	30	2	17.1	137	1	68.7	8752
MELOSIRA DISTANS	CEL		1.3	30		4.2	34	2	18.7	2378
MELOSIRA DISTANS V. LIMNETICA	CEL									X
MELOSIRA GRANULATA	CEL				5	4.2	34		0.3	38
MERISMOPEDIA TENUISSIMA	COL								0.3	38
MICROCYSTIS INCERTA	COL									X
NAVICULA #1	CEL			X						X
NAVICULA #2	CEL			X						
NAVICULA #3	CEL			X						X
NAVICULA CRYPTOCEPHALA	CEL									X
NITZSCHIA	CEL		0.7	15						
NITZSCHIA #1	CEL			X						X
NITZSCHIA HUNGARICA	CEL						X			X
OSCILLATORIA AMPHIBIA	FIL				4	10.6	85			
OSCILLATORIA LIMNETICA	FIL									X
PAACORINA NORUM	COL			X						
PEDIASTRUM TETRAS	COL									X
PENNATE DIATOMS	CEL					4.2	34			
SCENEDESMUS ACUMINATUS	COL									X
SCENEDESMUS DIMORPHUS	COL			X						
SCENEDESMUS QUADRICAUDA	CCL								0.1	19
STAURONEIS FLUMINEA	CEL			X						
STEPHANODISCUS INVISITATUS	CEL						X	3	5.4	685
STEPHANODISCUS NIAGARAE	CEL				1	32.0	256			
SURIRELLA OVATA	CEL			X						
SYNEDRA #1	CEL	4	3.3	75	3	12.7	102			
SYNEDRA ULNA	CEL		0.7	15					0.1	19
TABELLARIA FENESTRATA	CEL					2.1	17			
TRACHELOMONAS URCEOLATA	CEL									X
TOTAL				2278			801			12746

LAKE NAME: MONROE RES.
STORET NUMBER: 1828

NYGAARD TROPHIC STATE INDICES

DATE	05 10 73	08 06 73	10 10 73
MYXOPHYCEAN	3.00 E	9.00 E	7.00 E
CHLOROPHYCEAN	2.00 E	3.00 E	2.00 E
EUGLENOPHYTE	0.20 ?	0.55 E	0.44 E
DIATOM	0.33 E	0.40 E	1.50 E
COMPOUND	9.00 E	19.0 E	16.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 10 73	08 06 73	10 10 73
GENUS	02	10	02
SPECIES	03	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 10 73	08 06 73	10 10 73
AVERAGE DIVERSITY	H	2.56	2.93	3.57
NUMBER OF TAXA	S	25.00	29.00	22.00
NUMBER OF SAMPLES COMPOSITED	M	5.00	5.00	5.00
MAXIMUM DIVERSITY	MAXH	4.64	4.86	4.46
TOTAL DIVERSITY	D	5332.48	9704.16	4983.72
TOTAL NUMBER OF INDIVIDUALS/ML	N	2083.00	3312.00	1396.00
EVENESS COMPONENT	J	0.55	0.60	0.80
MEAN NUMBER OF INDIVIDUALS/TAXA	L	83.32	114.21	63.45
NUMBER/ML OF MOST ABUNDANT TAXON	K	1092.00	1306.00	289.00

LAKE NAME: MONROE RES.
STORET NUMBER: 1829

CONTINUED

TAXA	FORM	05 10 73 S	05 10 73 EC	05 10 73 ALGAL UNITS PER ML	08 06 73 S	08 06 73 EC	08 06 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 EC	10 10 73 ALGAL UNITS PER ML
ANABAENA	FIL				3	1.5	50	3	10.4	145
APHANIZOMENON FLOS-AQUAE	FIL				2	5.0	165			
ASTERIONELLA FORMOSA	CEL	3	9.2	191						
CERATIUM HIRUNDINELLA F. GRACILIS	CEL						X			
CHLAMYDOMONAS	CEL									X
CHLOROGONIUM	CEL			X						
CLOSTERIUM	CEL			X						
COCCONEIS	CEL					0.5	17			
COELOSPHAERIUM	COL						X		6.6	92
CRYPTOMONAS	CEL					1.5	50		5.7	79
CRYPTOMONAS EROSA	CEL	2	9.7	203			X			
CYANOPHYTAN FILAMENT	FIL		1.1	23					3.8	53
CYCLOTELLA BODANICA	CEL			X						
DACTYLOCOCCOPSIS	CEL		3.8	79		1.0	33	5	9.5	132
DICTYOSPHAERIUM	COL					0.5	17			
DINOBRYON SOCIALE	CEL	1	52.4	1092		1.5	50			
DINOFLAGELLATE	CEL		1.6	34						
EUGLENA ACUTISSIMA	CEL						X			
EUGLENA SPP.	CEL					1.5	50			
EUNOTIA CURVATA	CEL			X						
FLAGELLATE #1	CEL							4	9.5	132
FLAGELLATE #2	CEL	5	4.8	101						
FRAGILARIA CONSTRUENS	CEL		0.5	11						
FRAGILARIA CROTONENSIS	CEL	4	6.5	135	1	39.4	1306			
FRAGILARIA INTERMEDIA ?	CEL					3.6	118			
FRAGILARIA LEPTOSTAURON	CEL		2.2	45						
GYROSIGMA	CEL			X			X			
LYNGBYA BIRGEI	FIL				4	1.5	50			
LYNGBYA SUBTILIS	FIL					3.0	99			
MALLOMONAS	CEL			X						
MELOSIRA DISTANS	CEL					4.5	149	2	13.2	184
MELOSIRA GRANULATA	CEL				5	25.0	827			X
MELOSIRA ISLANDICA	CEL			X						
MERISMOPEDIA TENUISSIMA	COL					3.0	99		3.8	53
MICROCYSTIS	COL									X
MICROCYSTIS INCERTA	COL					2.0	66	1	20.9	289
NAVICULA	CEL			X		2.5	83		1.9	26
NITZSCHIA FILIFORMIS	CEL									X
OOCYSTIS	CEL		2.2	45			X		3.8	53
OOCYSTIS PARVA	CEL									X
OSCILLATORIA	FIL		1.6	34						
PHACUS ACUMINATUS	CEL						X		0.9	13
SCENEDESMUS QUADRICAUDA	COL			X						
SCHROEDERIA SETIGERA	CEL					1.5	50			
STAURASTRUM	CEL						X		0.9	13
STEPHANODISCUS	CEL		1.6	34					3.8	53
SYNEDRA ACUS	CEL			X						
SYNEDRA ULNA	CEL		2.7	56						
TRACHELOMONAS	CEL								3.8	53
TRACHELOMONAS HISPIDA	CEL						X			
TRACHELOMONAS PULCHELLA	CEL			X					1.9	26
TRACHELOMONAS URCEOLATA	CEL						X			
TRACHELOMONAS VOLVOCINA	CEL					1.0	33			X
TOTAL				2083			3312			1396

LAKE NAME: MORSE RES.
STORET NUMBER: 1829

NYGAARD TROPHIC STATE INDICES

DATE	05 10 73	08 02 73	10 15 73
MYXOPHYCEAN	02/0 E	6.00 E	8.00 E
CHLOROPHYCEAN	05/0 E	9.00 E	11.0 E
EUGLENOPHYTE	0.29 E	0.07 ?	0.11 ?
DIATOM	0.44 E	0.20 ?	0.25 ?
COMPOUND	13/0 E	17.0 E	23.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 10 73	08 02 73	10 15 73
GENUS	24	18	25
SPECIES	07	05	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 10 73	08 02 73	10 15 73
AVERAGE DIVERSITY	H	2.59	1.80	3.33
NUMBER OF TAXA	S	28.00	27.00	36.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.81	4.75	5.17
TOTAL DIVERSITY	D	44123.24	176409.00	73346.58
TOTAL NUMBER OF INDIVIDUALS/ML	N	17036.00	98005.00	22026.00
EVENESS COMPONENT	J	0.54	0.38	0.64
MEAN NUMBER OF INDIVIDUALS/TAXA	L	608.43	3629.81	611.83
NUMBER/ML OF MOST ABUNDANT TAXON	K	7769.00	56584.00	8377.00

LAKE NAME: HORSE RES.
STORET NUMBER: 1829

CONTINUED

TAXA	FORM	05 10 73 S	05 10 73 BC	05 10 73 ALGAL UNITS PER ML	08 02 73 S	08 02 73 BC	08 02 73 ALGAL UNITS PER ML	10 15 73 S	10 15 73 BC	10 15 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL						X			X
ANABAENOPSIS	FIL								0.4	96
ANKISTRODESMUS FALCATUS V. MIRABILIS	CEL		1.7	288						
ASTERIONELLA FORMOSA	CEL			X						
CHLAMYDOMONAS	CEL	3	9.1	1554					2.0	431
CHLAMYDOMONAS ?	CEL						X			
CHLOROGONIUM	CEL			X						
CLOSTERIUM	CEL								0.4	96
COCCOID COLONY	COL			X						
COELASTRUM MICROPORUM	COL					0.1	143			X
COSMARIUM	CEL					0.1	143			
CRUCIGENIA TETRAPEDIA	COL			X					0.7	144
CRYPTOMONAS	CEL					0.3	268			
CRYPTOMONAS EROSA	CEL		2.4	403				2	3.9	862
CYCLOTELLA MENEGHINIANA	CEL					2.2	2143			
CYMBELLA	CEL									X
DACTYLOCOCCOPSIS	CEL	5	5.1	863					2.4	527
DIATOMA	CEL		0.3	58						
DIATOMA VULGARE	CEL			X						
DICTYOSPHAERIUM	COL						X			
DIACRYON	CEL			X						
ELAKATOTHRIX GELATINOSA	COL								0.4	96
EUGLENA	CEL		1.4	230		0.1	143		0.4	96
FLAGELLATE #1	CEL					0.6	572		2.0	431
FLAGELLATE #2	CEL						X		0.7	144
FRANCEIA	CEL			X		0.1	143			
GYMNODINIUM	CEL		0.3	58						
LYNGBYA	FIL				5	3.9	3429	5	6.7	1484
MELOSIRA #4	CEL	4	12.2	2072						
MELOSIRA DISTANS	CEL	1	45.6	7769						
MELOSIRA ISLANDICA	CEL			X						X
MERISMOPEDIA	COL								2.8	622
MERISMOPEDIA TENUISSIMA	COL				4	2.2	2143		2.6	575
MICROCYSTIS INCERTA	COL				3	3.2	3144		2.8	622
NAVICULA	CEL						X		0.2	48
NAVICULA #1	CEL		0.7	115						
NAVICULA #2	CEL		0.3	58						
NITZSCHIA	CEL			X			X		1.3	287
NITZSCHIA HOLSATICA	CEL		0.3	58			X		0.9	192
OOCYSTIS	CEL								0.7	144
OSCILLATORIA	FIL			X						
OSCILLATORIA LIMNETICA	FIL				2	29.6	27006	1	38.0	8377
PHACUS AGUNNAYUS	CEL			X						X
PHORMIDIUM MUCICOLA	COL						X			
RAPHIDIOPSIS CURVATA	FIL				1	57.7	56584	2	13.9	3066
RHIZOSOLENIA CURVATA	CEL		1.4	230						X
SCENEDESMUS ARCUATUS V. PLATYDISCA	COL								0.2	48
SCENEDESMUS BICAUDATUS	COL			X			X		0.2	48
SCENEDESMUS BIJUGA	COL					0.4	429			
SCENEDESMUS DENTICULATUS	COL						X		0.4	96
SCENEDESMUS DIMORPHUS	COL						X		0.7	144
SCENEDESMUS QUADRICAUDA	COL		1.4	230			X		2.2	479
SCHROEDERIA SETIGERA	CEL								0.2	48
STEPHANODISCUS	CEL	2	15.9	2705				3	10.4	2298
SYNEDRA	CEL		2.0	345					2.0	431
SYNEDRA RUMPENS	CEL									X
SYNEDRA ULNA	CEL					1.6	1572			
TETRAEDRON	CEL					0.1	143			
TETRAEDRON MINIMUM	CEL								0.4	96
TOTAL				17036			98005			22026

LAKE NAME: WAWASEE LAKE
STORET NUMBER: 1836

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 04 73	10 15 73
MYXOPHYCEAN	04/0 E	07/0 E	05/0 E
CHLOROPHYCEAN	06/0 E	05/0 E	03/0 E
EUGLENOPHYTE	0/10 ?	0/12 ?	0/08 ?
DIATOM	0.22 ?	1.00 E	0.71 E
COMPOUND	12/0 E	15/0 E	13/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 04 73	10 15 73
GENUS	02	08	02
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 04 73	10 15 73
AVERAGE DIVERSITY	H	3.09	3.06	2.91
NUMBER OF TAXA	S	28.00	24.00	26.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.81	4.58	4.70
TOTAL DIVERSITY	D	6365.40	6704.46	3841.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	2060.00	2191.00	1320.00
EVENESS COMPONENT	J	0.64	0.67	0.62
MEAN NUMBER OF INDIVIDUALS/TAXA	L	73.57	91.29	50.77
NUMBER/ML OF MOST ABUNDANT TAXON	K	380.00	547.00	407.00

LAKE NAME: WAWASEE LAKE
STORET NUMBER: 1836

CONTINUED

TAXA	FORM	05 03 73 IS	05 03 73 EC	05 03 73 ALGAL UNITS PER ML	08 04 73 IS	08 04 73 EC	08 04 73 ALGAL UNITS PER ML	10 15 73 IS	10 15 73 EC	10 15 73 ALGAL UNITS PER ML
ANABAENA	FIL					2.6	58			X
APHANIZOMENON FLOS-AQUAE	FIL						X			
APHANOTHECE	COL			X						
APHANOTHECE CLATHRATA ?	COL									
ASTERIONELLA FORMOSA	CEL		4.7	97					3.3	44
CELL	CEL		0.5	10						
CENTRIC DIATOM	CEL								3.3	44
CERATIUM HIRUNDINELLA	CEL									X
CERATIUM HIRUNDINELLA F. GRACILIS	CEL						X			
CHLOROGONIUM ?	CEL		0.5	10						
COCCONEIS	CEL			X						X
COELASTRUM RETICULATUM	COL								0.8	11
COELOSPHAERIUM NAEGELIANUM	COL									X
CRYPTOMONAS	CEL								5.0	66
CRYPTOMONAS CURVATA	CEL		1.4	29						
CRYPTOMONAS EROSA	CEL	2	4.7	97	5	7.9	173			
CYANOPHYTAN COCCOID CELLED COLONY	CEL			X						
CYCLOTELLA	CEL	3	18.0	371					0.8	11
CYCLOTELLA ?	CEL						X			
CYCLOTELLA COMPTA	CEL					5.2	115			
CYMBELLA	CEL									X
CYMBELLA AFFINIS	CEL			X						
DACTYLOCOCCOPSIS SMITHII	CEL					2.6	58			
DINOBRYON	CEL		1.0	20						
DINOBRYON BAVARICUM	CEL								0.8	11
DINOBRYON DIVERGENS	CEL					1.3	29			X
FLAGELLATE #1	CEL		17.5	361		1.3	29			
FLAGELLATES	CEL							4	30.8	407
FRAGILARIA CROTONENSIS	CEL	5	11.4	234			X	5	17.5	231
GOMPHONEMA LACUSTRIS	CEL				3	23.7	519			
GOMPHOSPHAERIA	COL			X						
GOMPHOSPHAERIA LACUSTRIS	COL						X	2	5.8	77
KIRCHNERIELLA	CEL		0.5	10						
LYNGBYA BIRGEI	FIL						X			
MALLOMONAS	CEL			X					0.8	11
MELOSIRA #4	CEL								3.3	44
MELOSIRA GRANULATA	CEL							1	20.8	275
MELOSIRA ITALICA	CEL	1	17.5	361	4	10.5	230			
MERISMOPEDIA TENUISSIMA	COL		0.5	10						
MICROCYSTIS AERUGINOSA	COL				1	13.1	288			
MICROCYSTIS INCERTA	COL				2	25.0	547	3	5.8	77
NAVICULA	CEL		0.5	10						X
NAVICULA #1	CEL						X			
NAVICULA PUPULA V. ?	CEL									X
NITZSCHIA	CEL									X
OOCYSTIS	CEL	4	18.4	380		2.6	58			X
PENNATE DIATOM	CEL		1.0	20						
PERIDINIUM INCONSPICUUM	CEL					1.3	29			
PERIDINIUM WISCONSINENSE ?	CEL						X			
RHIZOSOLENIA	CEL								0.8	11
SCENEDESMUS BALATONICUS	COL									X
SCENEDESMUS BIJUGA	COL		1.0	20		1.3	29			
SCENEDESMUS DENTICULATUS V. LINEARIS	COL			X						
SCENEDESMUS QUADRICAUDA	COL		0.5	10		1.3	29			
SPHAEROCYSTIS ?	COL		0.5	10						
SYNEDRA	CEL			X						
SYNEDRA DELICATISSIMA V. ANGUSTISSIMA	CEL			X						X
SYNEDRA ULNA	CEL			X						
TETRAEDRON MINIMUM	CEL						X			
TETRASTRUM HEYERACANTHUM	COL						X			
TOTAL				2060			2191			1320

LAKE NAME: WEBSTER LAKE
STORET NUMBER: 1837

NYGAARD TROPHIC STATE INDICES

DATE	08 04 73	10 15 73
MYXOPHYCEAN	7.00 E	2.33 E
CHLOROPHYCEAN	14.0 E	4.33 E
EUGLENOPHYTE	0/21 ?	0/20 ?
DIATOM	0.80 E	0.50 E
COMPOUND	25.0 E	7.33 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 04 73	10 15 73
GENUS	14	10
SPECIES	06	05

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 04 73	10 15 73
AVERAGE DIVERSITY	H	3.18	3.82
NUMBER OF TAXA	S	41.00	33.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.36	5.04
TOTAL DIVERSITY	D	44520.00	24115.66
TOTAL NUMBER OF INDIVIDUALS/ML	N	14000.00	6313.00
EVENESS COMPONENT	J	0.59	0.76
MEAN NUMBER OF INDIVIDUALS/TAXA	L	341.46	191.30
NUMBER/ML OF MOST ABUNDANT TAXON	K	6703.00	1606.00

LAKE NAME: WEBSTER LAKE
SECRET NUMBER: 1837

CONTINUED

TAXA	FORM	08 04 73 IS	08 04 73 SC	08 04 73 ALGAL UNITS PER ML	10 15 73 IS	10 15 73 SC	10 15 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL		0.7	99			
ANABAENA #1	FIL		0.7	99		0.3	21
ANABAENA #2	FIL			X		1.0	64
ANKISTRODESMUS FALCATUS	CEL		0.3	49		0.3	21
APHANIZOMENON FLOS-AQUAE	FIL			X		0.3	21
CERATIUM HIRUNDINELLA F. GRACILIS	CEL			X			
CHRYSOPHYTAN COCCOID CELL	CEL		1.1	148			
CLOSTERIUM	CEL					2.0	128
COCCONEIS	CEL			X			X
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL		1.1	148			
COSMARIUM	CEL	5	4.6	641	3	7.8	492
CRUCIGENIA CRUCIFERA	COL		1.8	246			
CRUCIGENIA QUADRATA	COL			X			X
CRUCIGENIA TETRAPEDIA	COL		0.7	99		3.7	236
CRYPTOMONAS EROSA	CEL		1.8	246		6.1	385
CYCLOTELLA MENEGHINIANA	CEL	3	5.6	789	5	6.8	428
DICTYOSPHAERIUM EHRENBERGIANUM	COL		4.6	641		0.7	43
DINOBRYON BAVARICUM	CEL		1.1	148			
DINOBRYON SOCIALE	CEL		1.1	148		0.3	21
ELAKATOTHRIX GELATINOSA	COL		0.3	49		1.0	64
FLAGELLATE #1	CEL		0.3	49		2.7	171
FRAGILARIA CROTONENSIS	CEL	2	7.0	986		0.7	43
GOLENKINIA RADIATA	CEL			X		0.7	43
KIRCHNERIELLA OBESA	CEL			X			
LYNGBYA LIMNETICA	FIL		1.1	148		6.4	407
MALLOMONAS ACAROIDES	CEL		0.3	49			
MALLOMONAS CAUDATA	CEL		1.1	148			
MELOSIRA #1	CEL		0.7	99			
MELOSIRA #4	CEL			X			
MELOSIRA GRANULATA	CEL		0.3	49			
MELOSIRA ITALICA	CEL				4	7.5	471
MICROCYSTIS AERUGINOSA	COL		2.1	296		3.1	193
MICROCYSTIS INCERTA	COL	1	47.9	6703	1	25.4	1606
NOUGEOTIA	FIL			X		0.3	21
NAVICULA ELGINENSIS	CEL						X
OOCYSTIS PUSILLA	CEL		1.8	246		4.4	278
OSCILLATORIA	FIL						X
OSCILLATORIA LIMNETICA	FIL		2.1	296			
PEDIASTRUM BORYANUM	COL						X
PEDIASTRUM DUPLEX V. GRACILIMUM	COL			X			X
PERIDINIUM QUADRIDENS	CEL			X			
SCENEDESMUS BIJUGA	COL		4.6	641		4.1	257
SCENEDESMUS BIJUGA V. FLEXUOSUS	COL			X			
SCENEDESMUS QUADRICAUDA	COL		0.7	99		1.4	86
SCHROEDERIA SETIGERA	CEL					0.7	43
STAURASTRUM	CEL					1.7	107
SYNEDRA	CEL	4	4.6	641			
SYNEDRA #1	CEL			X	2	10.2	642
TETRASTRUM STAUROGENIAEFORME	COL					0.3	21
TOTAL				14000			6313

LAKE NAME: WHITEWATER LAKE
STORET NUMBER: 1839

NYGAARD TROPHIC STATE INDICES

DATE	04 29 73	08 02 73	10 10 73
MYXOPHYCEAN	0/0 C	05/0 E	07/0 E
CHLOROPHYCEAN	01/0 E	02/0 E	04/0 E
EUGLENOPHYTE	1.00 E	0.57 E	0.27 E
DIATOM	1.50 E	1.00 E	1.00 E
COMPOUND	05/0 E	14/0 E	18/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 29 73	08 02 73	10 10 73
GENUS	01	13	11
SPECIES	00	00	03

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 29 73	08 02 73	10 10 73
AVERAGE DIVERSITY	H	1.35	1.71	3.15
NUMBER OF TAXA	S	12.00	22.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	3.58	4.46	4.86
TOTAL DIVERSITY	D	39630.60	37782.45	273111.90
TOTAL NUMBER OF INDIVIDUALS/ML	N	29356.00	22095.00	86702.00
EVENESS COMPONENT	J	0.38	0.38	0.65
MEAN NUMBER OF INDIVIDUALS/TAXA	L	2446.33	1004.32	2989.72
NUMBER/ML OF MOST ABUNDANT TAXON	K	14936.00	14849.00	24194.00

LAKE NAME: WHITEWATER LAKE
STORET NUMBER: 1839

CONTINUED

TAXA	FORM	04 29 75 IS	04 29 75 EC	04 29 75 ALGAL UNITS PER ML	08 02 75 IS	08 02 75 EC	08 02 75 ALGAL UNITS PER ML	10 10 75 IS	10 10 75 EC	10 10 75 ALGAL UNITS PER ML
ACHANTHES MICROCEPHALA	CEL									X
ANKISTRODESMUS FALCATUS V. TUMIDUS	CEL								1.3	1134
CENTRIC DIATOM	CEL	5	2.4	691			X			X
CHLOROPHYTAN COCCOID CELL	CEL									X
CHLOROPHYTAN COCCOID CELLED COLONY	CEL						X			
CHRYSOPHYTAN COCCOID CELL	CEL							11	27.9	24194
CRYPTOMONAS	CEL							3	1.6	1386
CRYPTOMONAS CURVATA ?	CEL			X						
CRYPTOMONAS EROSA	CEL			X		0.4	80			
CYCLOTELLA	CEL								0.1	5292
CYCLOTELLA COMPTA ?	CEL									X
DACTYLOCOCCOPSIS IRREGULARIS	CEL				3	9.5	2110	3	13.1	11341
DIADESMUS DIVERGENS	CEL		0.2	46						
EUGLENA	CEL		0.1	38		0.7	159			
EUGLENA GRACILIS ?	CEL									X
EUGLENA MINUTA	CEL									X
FLAGELLATE ?	CEL									X
FLAGELLATE #1	CEL	1	50.9	14936				1	10.3	8947
GLENODINIUM	CEL									X
GLENODINIUM EDAX	CEL					0.7	159			
LYNGBYA LIMNETICA	PIL								1.5	1260
MALLOMONAS ACAROIDES	CEL					1.1	239			X
MELOSIRA DISTANS	CEL	12	43.2	12677			X			X
MELOSIRA ITALICA ?	CEL	3	3.0	876						
MERISMOPEDIA PUNCTATA	COL								3.8	3276
MERISMOPEDIA TENUISSIMA	COL					0.5	119		1.5	1260
MICRACTINIUM PUSILLUM	COL		0.2	46						
MICROCYSTIS INCERTA	COL				4	4.0	876		8.0	6930
NAVICULA #1	CEL									X
NAVICULA #2	CEL									X
NITZSCHIA #1	CEL						X			
OSCILLATORIA ANGUSTA	FIL							2	15.6	13483
OSCILLATORIA LIMNETICA	FIL				1	17.2	14869			
PENNATE DIATOM	CEL	4	0.2	46						
PENNATE DIATOMS	CEL					0.2	40			
PERIDINIUM	CEL			X						
PERICINIUM INCONSPICUUM	CEL					0.2	40			
PHACUS ACUMINATUS	CEL					0.2	40			
PHACUS NORDSTEDTII	CEL						X			
RAPHIDIOPSIS CURVATA	FIL						X		0.4	3544
SCENEDESMUS ACUMINATUS	COL						X			
SCENEDESMUS OPOLIENSIS	COL									X
SCENEDESMUS QUADRICAUDA	COL					0.2	40			
SCHROEDERIA ?	CEL									X
STEPHANODISCUS INVISITATUS	CEL				3	2.5	557			
SURIRELLA OVATA	CEL			X						
SYNEDRA #1	CEL								0.4	387
SYNEDRA ACUS V. RADIANS	CEL				2	12.6	2787			
TETRAEDRON MINIMUM	CEL									X
TRACHELOMONAS ?	CEL								2.6	2268
TRACHELOMONAS SCABRA ?	CEL						X			
TOTAL				29356			22095			86702

LAKE NAME: WINONA LAKE
STORET NUMBER: 1840

NYGAARD TROPHIC STATE INDICES

DATE	05 04 73	08 04 73	10 13 73
MYXOPHYCEAN	03/0 E	6.00 E	8.00 E
CHLOROPHYCEAN	04/0 E	4.00 E	8.00 E
EUGLENOPHYTE	0/07 ?	0.40 E	0.06 ?
DIATOM	0.45 E	1.25 E	1.00 E
COMPOUND	12/0 E	19.0 E	21.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 04 73	08 04 73	10 13 73
GENUS	04	07	05
SPECIES	00	04	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 04 73	08 04 73	10 13 73
AVERAGE DIVERSITY	H	3.05	2.75	2.66
NUMBER OF TAXA	S	28.00	31.00	38.00
NUMBER OF SAMPLES COMPOSITED	N	1.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.81	4.95	5.25
TOTAL DIVERSITY	D	7875.10	48977.50	22931.86
TOTAL NUMBER OF INDIVIDUALS/ML	N	2582.00	17810.00	8621.00
EVENESS COMPONENT	J	0.63	0.56	0.51
MEAN NUMBER OF INDIVIDUALS/TAXA	L	92.21	574.52	226.87
NUMBER/ML OF MOST ABUNDANT TAXON	K	975.00	5559.00	3942.00

LAKE NAME: WINONA LAKE
STORET NUMBER: 1940

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 BC	05 04 73 ALGAL UNITS PER ML	08 04 73 S	08 04 73 BC	08 04 73 ALGAL UNITS PER ML	10 13 73 S	10 13 73 BC	10 13 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL				3	17.5	3108	2	12.7	1099
APHANIZOMENON FLOS-AQUAE	PIL	4	6.6	171	1	31.2	5539	1	1.8	157
ASTERIONELLA FORMOSA	CEL	3	9.6	222						
CAMPYLIA 9	CEL									X
CENTRIC DIATOM	CEL	1	10.6	274	1	2.0	360	1	0.7	63
CERATIUM HIRUNDINELLA	CEL						X			
CERATIUM HIRUNDINELLA P. AUSTRIACUM	CEL									X
CERATIUM HIRUNDINELLA P. CARINTHIACUM	CEL									X
CHLAMYDOMONAS	CEL									X
CHLAMYDOMONAS 9	CEL					0.3	45			
CHROOCOCCUS DISPERSUS	COL					0.3	45			
CHROOMONAS NORDSTEDTII	CEL			X						
CLOSTERIUM	CEL						X		0.4	31
COCCOID CELL	CEL							3	12.6	1084
COCCOID CELL #1	CEL	2	10.6	274						
COELASTRUM MICROPORUM	COL	1	0.7	17						
CRUCIGENIA TETRAPEDIA	COL				1	0.6	135	1	0.5	47
CRYPTOMONAS EROSA	CEL	1	2.0	51	1	1.5	270	1	0.7	63
CRYPTOMONAS REFLEXA	CEL	1	0.7	17						
CYCLOTELLA STELLIGERA	CEL						X			
CYMBELLA	CEL			X						
CYMBELLA #1	CEL			X						
CYMBELLA #2	CEL			X						
DACTYLOCOCCOPSIS IRREGULARIS	CEL				5	4.3	766	4	9.8	848
DICTYOSPHAERIUM PULCHELLUM	COL						X			
DINOBRYON SOCIALE	CEL						X	1	0.7	63
EUGLENA	CEL								0.2	16
EUGLENA #2	CEL						X			
EUGLENA MINUTA	CEL						X			
FLAGELLATE #1	CEL	11	37.0	975	1	5.5	90	1	1.3	110
FRAGILARIA #1	CEL			X						
FRAGILARIA #2	CEL	1	2.0	68						
FRAGILARIA CROTONENSIS	CEL						X			
FRAGILARIA VIRESCENS 9	CEL	1	6.3	34						
GLENODINIUM OCULATUM 9	CEL									X
GYMNODINIUM ALBULUM	CEL								0.4	31
LYNGBYA LIMNETICA	PIL	1	2.0	51	2	23.3	4144	5	6.9	597
MALLOMONAS ACARODES	CEL					0.3	45			X
MELOSIRA DISTANS	CEL	1	3.3	86			X			X
MELOSIRA GRANULATA	CEL						X			
MELOSIRA ITALICA	CEL	3	9.3	240						
MELOSIRA ITALICA 9	CEL								0.2	16
MELOSIRA VARIANS	CEL			X						
NEIDIOPSEDIA TENUISSIMA	COL				1	1.3	225			X
MICROCYSTIS INCERTA	COL	1	1.3	34	1	4.0	721	1	0.4	31
NAVICULA #2	CEL	1	2.0	51						
NAVICULA GASTRUM	CEL			X			X			X
NITZSCHIA #1	CEL	1	0.7	17						
OSCILLATORIA LIMNETICA	PIL							1	45.7	3942
OSCILLATORIA LIMOSA	PIL								0.4	31
PEDIASTRUM BORYANUM	COL			X						
PEDIASTRUM SIMPLEX	COL						X			X
PENNATE DIATOM #1	CEL			X						
PERIDINIUM CUNNINGTONII 9	CEL						X			
PERIDINIUM INCONSPICUUM	CEL								0.2	16
PHACUS CRISTULARIA	CEL						X			
RAPHIDIOPSIS CURVATA	PIL								3.5	298
SCENEDESMUS ARUNDANS	COL									X
SCENEDESMUS BIJUGA	COL								0.2	16
SCENEDESMUS BIJUGA V. ALTERNANS	COL									X
SCENEDESMUS DIMORPHUS	COL									X
SCENEDESMUS QUADRICAUDA	COL			X		1.3	225		0.4	31
SPHAEROCYSTIS SCHROETERI	COL			X						
STEPHANODISCUS NIAGARAE	CEL			X		0.3	45			X
SYNEDRA	CEL				4	11.1	1982		0.4	31
TABELLARIA FENESTRATA	CEL									X
TRACHELOMONAS PULCHELLA	CEL					0.3	45			X
TROCHISCIA	CEL									X
TOTAL				2582			17810			8621

LAKE NAME: WESTLER LAKE
STORET NUMBER: 1841

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 03 73	10 12 73
MYXOPHYCEAN	03/0 E	07/0 E	7.00 E
CHLOROPHYCEAN	01/0 E	02/0 E	3.00 E
EUGLENOPHYTE	0/04 ?	0.11 ?	0/10 ?
DIATOM	0.57 E	0.50 E	0.75 E
COMPOUND	08/0 E	11/0 E	13.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 03 73	10 12 73
GENUS	07	06	07
SPECIES	04	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 03 73	10 12 73
AVERAGE DIVERSITY	H	2.06	2.31	2.56
NUMBER OF TAXA	S	17.00	15.00	21.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	2.00	3.00
MAXIMUM DIVERSITY	MAXH	4.09	3.91	4.39
TOTAL DIVERSITY	D	8044.30	3074.61	4359.68
TOTAL NUMBER OF INDIVIDUALS/ML	N	3905.00	1331.00	1703.00
EVENESS COMPONENT	J	0.50	0.59	0.58
MEAN NUMBER OF INDIVIDUALS/TAXA	L	229.71	88.73	81.10
NUMBER/ML OF MOST ABUNDANT TAXON	K	2045.00	663.00	715.00

LAKE NAME: WESTLER LAKE
STORET NUMBER: 1841

CONTINUED

TAXA	FORM	05 03 73 S	05 03 73 %C	05 03 73 ALGAL UNITS PER ML	08 03 73 S	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 12 73 S	10 12 73 %C	10 12 73 ALGAL UNITS PER ML
ANABAENA	FIL						X	5	4.3	74
APHANIZOMENON FLOS-AQUAE	FIL	5	5.0	196	4	13.2	176	1	42.0	715
APHANOCAPSA ?	CEL									X
ASTERIONELLA FORMOSA	CEL	2	24.1	943						
BOTRYOCOCCUS ?	COL									X
CERATIUM HIRUNDINELLA	CEL					3.0	40			
CLOSTERIUM	CEL								4.3	74
COCCONEIS	CEL			X						
COELASTRUM	COL			X		1.0	13		1.5	25
COELASTRUM RETICULATUM	COL						X			
COELOSPHAERIUM NAEGELIANUM	COL			X						X
CYCLOTELLA COMTA	CEL		2.9	110			X			X
CYMBELLA	CEL									X
DINOBRYON BAVARICUM	CEL									X
DINOBRYON DIVERGENS	CEL		0.6	24					1.5	25
EUGLENA	CEL					1.0	13			
FLAGELLATES	CEL	3	8.1	318	3	10.0	133	3	13.0	222
FRAGILARIA	CEL		0.6	24						
FRAGILARIA CROTONENSIS	CEL	1	52.4	2045			X	4	5.8	99
GOMPHOSPHAERIA LACUSTRIS	COL				2	14.0	186	1	1.5	25
GYROSIGMA	CEL			X						
MELOSIRA	CEL		2.2	86						
MELOSIRA VARIANS	CEL			X						
MERISMOPEDIA TENUISSIMA	COL					2.0	27			
MICROCYSTIS AERUGINOSA	COL						X			
MICROCYSTIS INCERTA	COL				5	4.0	53		4.3	74
NAVICULA	CEL			X						
OSCILLATORIA TENUIS	FIL	4	3.8	147	1	49.8	663	2	20.3	345
RHIZOSOLENIA	CEL								1.5	25
STEPHANODISCUS	CEL		0.3	12						X
SYNEDRA ULNA										
V. CHASEANA	CEL			X						
TABELLARIA FENESTRATA	CEL					2.0	27			X
TETRAEDRON MINIMUM	CEL									X
TOTAL				3905			1331			1703

LAKE NAME: WITMER LAKE
STORET NUMBER: 1842

NYGAARD TROPHIC STATE INDICES

DATE	08 03 73	10 12 73
MYXOPHYCEAN	09/0 E	2.50 E
CHLOROPHYCEAN	06/0 E	1.50 E
EUGLENOPHYTE	0/15 ?	0/08 ?
DIATOM	1.50 E	0/06 ?
COMPOUND	18/0 E	4.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 03 73	10 12 73
GENUS	06	06
SPECIES	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 03 73	10 12 73
AVERAGE DIVERSITY	H	2.87	2.64
NUMBER OF TAXA	S	24.00	24.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.58	4.58
TOTAL DIVERSITY	D	3960.60	6829.68
TOTAL NUMBER OF INDIVIDUALS/ML	N	1380.00	2587.00
EVENESS COMPONENT	J	0.63	0.58
MEAN NUMBER OF INDIVIDUALS/TAXA	L	57.50	107.79
NUMBER/ML OF MOST ABUNDANT TAXON	K	522.00	882.00

LAKE NAME: WITMER LAKE
STORET NUMBER: 1842

CONTINUED

TAXA	FORM	08 03 73 IS	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 12 73 IS	10 12 73 %C	10 12 73 ALGAL UNITS PER ML
ANABAENA	FIL		3.0	42		2.3	60
APHANIZOMENON FLOS-AQUAE	FIL	1	37.9	522	1	34.1	882
BOTRYOCOCCUS BRAUNII	COL			X			
CENTRIC DIATOM	CEL			X			
CERATIUM HIRUNDINELLA	CEL			X			X
CHLAMYDOMONAS	CEL						X
CLOSTERIUM	CEL						X
CLOSTERIUM #1	CEL					2.9	75
COCCOID COLONY	COL			X			
COELASTRUM MICROPORUM	COL		1.0	14			
COELASTRUM RETICULATUM	COL						X
COELOSPHAERIUM NAEGELIANUM	CEL			X			
CRUCIGENIA APICULATA	COL			X			X
CRYPTOMONAS	CEL		4.1	56	3	4.6	120
DACTYLOCOCCOPSIS ?	CEL		1.0	14			
DICTYOSPHAERIUM PULCHELLUM	COL		1.0	14			
DINOBRYON #1	CEL					1.7	45
DINOBRYON BAVARICUM	CEL						X
FLAGELLATE #1	CEL		1.0	14			X
FLAGELLATE #9	CEL						X
FLAGELLATES	CEL				3	16.7	439
FRAGILARIA	CEL						X
FRAGILARIA CROTONENSIS	CEL					4.6	120
GOMPHOSPHAERIA LACUSTRIS	COL	4	12.2	169			
LYNGBYA	FIL		2.0	28	4	14.5	374
MELOSIRA	CEL			X			
MICROCYSTIS AERUGINOSA	COL		1.0	14			X
MICROCYSTIS INCERTA	COL		3.0	42			
NAVICULA GASTRUM	CEL						X
OOCYSTIS	CEL	5	6.2	85			
OSCILLATORIA TENUIS	FIL	2	14.3	197	2	17.9	463
SCENEDESMUS DENTICULATUS	COL			X			
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL					0.6	15
STEPHANODISCUS	CEL			X			
SYNEDRA #1	CEL						X
SYNEDRA ULNA V. CHASEANA	CEL			X			X
TABELLARIA FENESTRATA	CEL	3	12.2	169			X
TOTAL				1380			2587

LAKE NAME: LAKE WAXINKUCKEE
STORET NUMBER: 1843

NYGAARD TROPHIC STATE INDICES

DATE	05 02 73	08 03 73	10 13 73
MYXOPHYCEAN	3.00 E	6.00 E	10/0 E
CHLOROPHYCEAN	5.00 E	5.00 E	03/0 E
EUGLENOPHYTE	0/08 ?	0.09 ?	0/13 ?
DIATOM	0.29 ?	0.43 E	0.20 ?
COMPOUND	10.0 E	15.0 E	15/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 02 73	08 03 73	10 13 73
GENUS	01	03	01
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 02 73	08 03 73	10 13 73
AVERAGE DIVERSITY	H	2.66	3.25	1.05
NUMBER OF TAXA	S	23.00	28.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.52	4.81	4.86
TOTAL DIVERSITY	D	3298.40	3360.50	4208.40
TOTAL NUMBER OF INDIVIDUALS/ML	N	1240.00	1034.00	4008.00
EVENESS COMPONENT	J	0.59	0.68	0.22
MEAN NUMBER OF INDIVIDUALS/TAXA	L	53.91	36.93	138.21
NUMBER/ML OF MOST ABUNDANT TAXON	K	510.00	340.00	3406.00

LAKE NAME: LAKE MAXINKUCKEE
STORET NUMBER: 1843

CONTINUED

TAXA	FORM	05 02 73 IS	05 02 73 %C	05 02 73 ALGAL UNITS PER ML	08 03 73 IS	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 13 73 IS	10 13 73 %C	10 13 73 ALGAL UNITS PER ML
ANABAENA	FIL								0.5	22
ANKISTRODESMUS SPIRALIS	CEL									X
ASTERIONELLA FORMOSA	CEL		4.0	49						
BOTRYOCOCCUS BRAUNII	COL			X						
CERATIUM HIRUNDINELLA	CEL						X			X
CHLOROPHYTAN FILAMENT	FIL	4	11.8	146						
CHROOCOCCUS LIMNETICUS	COL			X						
COCCOID COLONY	COL					1.9	20			
COCCONEIS PLACENTULA V. EUGLYPTA	CEL			X						X
COELASTRUM RETICULATUM	COL									X
COELOSPHAERIUM	COL									X
CROSARIUM	CEL		4.0	49		1.9	20			
CRUCIGENIA APICULATA	COL						X			
CRYPTOMONAS	CEL		1.9	24					1.6	65
CYCLOTELLA COMPTA	CEL	2	19.6	243		1.9	20		0.5	22
CYMBELLA #1	CEL						X			X
CYMBELLA #2	CEL									X
CYMBELLA #3	CEL						X			
CYMBELLA CISTULA	CEL			X						
CYMBELLA TUMIDA	CEL			X						
DICTYOSPHAERIUM PULCHELLUM	COL									X
DIACBRYON BAVARICUM	CEL			X						
DIACBRYON DIVERGENS	CEL			X						
DINOBRYON SOCIALE V. AMERICANUM	CEL									
ELAKATOTHRIX	COL		1.9	24						X
EPITHEMIA	CEL									
FLAGELLATES	CEL	5	5.9	73	4	32.9	340	5	2.7	109
FRAGILARIA CROTONENSIS	CEL	1	41.1	510			X	2	3.3	131
GLENODINIUM	CEL					1.9	20			
GOMPHOSPHAERIA LACUSTRIS	COL			X	3	9.7	100	3	2.7	109
LYNGBYA	FIL					5.8	60			
LYNGBYA #1	FIL							1	85.0	3406
LYNGBYA #2	FIL						X		1.6	65
LYNGBYA BIRGEI	FIL					1.9	20			X
MELOSIRA ITALICA	CEL	3	4.0	49	1	11.6	120			X
MERISMOPEDIA PUNCTATA	COL									X
MERISMOPEDIA TENUISSIMA	COL					1.4	14			
MICROCYSTIS AERUGINOSA	COL					1.9	20	4	1.4	57
MICROCYSTIS INCERTA	COL									X
NAVICULA	CEL			X						X
NITZSCHIA	CEL									X
OOCYSTIS LACUSTRIS	CEL			X			X			
OSCILLATORIA TENUIS	FIL		1.9	24						X
PEDIASTRUM BORYANUM	COL			X						
PEDIASTRUM DUPLEX V. RETICULATUM	COL					1.9	20			
PENNATE DIATOM #1	CEL		4.0	49						
PENNATE DIATOM #2	CEL						X			
PENNATE DIATOM #3	CEL						X			
PENNATE DIATOM #4	CEL						X			
PERIDINIUM WISCONSINENSE	CEL						X			
PHACUS	CEL						X			
PINNULARIA	COL			X						X
SCENEDESMUS ARMATUS	COL					3.9	40			
SCENEDESMUS QUADRICAUDA	CEL				2	11.6	120			
STEPHANODISCUS	CEL				5	7.7	80			
SYNEDRA #1	CEL								0.5	22
SYNEDRA #2	COL					1.9	20			
TETRASTRUM STAUROGENIAEFORME										
TOTAL				1240			1034			4008

LAKE NAME: TIPPECANOE LAKE
STORET NUMBER: 1844

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 04 73	10 13 73
MYXOPHYCEAN	04/0 E	9.00 E	06/0 E
CHLOROPHYCEAN	05/0 E	5.00 E	05/0 E
EUGLENOPHYTE	0/09 ?	0.07 ?	0/11 ?
DIATOM	0.40 E	0.43 E	1.00 E
COMPOUND	13/0 E	18.0 E	16/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 04 73	10 13 73
GENUS	04	13	08
SPECIES	02	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 04 73	10 13 73
AVERAGE DIVERSITY	H	3.45	3.32	3.08
NUMBER OF TAXA	S	27.00	31.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.75	4.95	4.86
TOTAL DIVERSITY	D	8059.20	15912.76	4894.12
TOTAL NUMBER OF INDIVIDUALS/ML	N	2336.00	4793.00	1589.00
EVENESS COMPONENT	J	0.73	0.67	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	86.52	154.61	54.79
NUMBER/ML OF MOST ABUNDANT TAXON	K	627.00	1339.00	682.00

LAKE NAME: TIPPECANOE LAKE
STORET NUMBER: 1844

CONTINUED

TAXA	FORM	05 03 73 IS	05 03 73 SC	05 03 73 ALGAL UNITS PER ML	08 04 73 IS	08 04 73 SC	08 04 73 ALGAL UNITS PER ML	10 13 73 IS	10 13 73 SC	10 13 73 ALGAL UNITS PER ML
ACHNANTHES	COL						X			
ACHNANTHES MICROCEPHALA	COL		1.9	44			X	5	5.3	85
AMPHIPRORA	COL			X						
ANABAENA	FIL					0.8	39		0.9	14
APHANIZOMENON	FIL			X						
APHANIZOMENON FLOS-AQUAE	FIL		3.8	88		2.4	116	2	11.6	185
APHANOTHECE	COL						X			
ASTERIONELLA FORMOSA	COL	2	12.5	292						
CERATIUM HIRUNDINELLA F. FURCOIDES	COL					0.4	19			
COCCONEIS	COL			X						
COELOSPHAERIUM	COL					0.8	39			
CRUCIGENIA TETRAPEDIA	COL					1.6	78		1.8	28
CRUCIGENIA TRUNCATA	COL						X			
CRYPTOMONAS	COL					2.8	136			
CRYPTOMONAS EROSA	COL	4	8.7	204					0.9	14
CYANOMONAS ? AMERICANUM ?	COL									X
CYANOPHYTAN FILAMENT	FIL									X
CYCLOTELLA	COL				1	27.9	1339		1.8	28
CYCLOTELLA PENEGHINIANA	COL		2.9	58						
CYCLOTELLA STELLIGERA	COL									X
CYMBELLA	COL			X			X			
DICTYOSPHAERIUM	COL		1.2	29						
DINOBRYON	COL			X		2.0	97	5	5.3	85
DINOBRYON SOCIALE V. AMERICANUM	COL									X
FLAGELLATE #1	COL	5	12.5	292						
FLAGELLATE #2	COL		5.0	117		4.9	233			X
FLAGELLATES	COL								4.5	71
FRAGILARIA	COL						X			
FRAGILARIA CONSTRUENS	COL			X						
FRAGILARIA CROTONENSIS	COL	1	26.8	627					4.5	71
GLENODINIUM	COL									X
LAGERHEIMIA	COL									X
LAGERHEIMIA QUADRISETA	COL						X			
LYNGBYA	FIL		2.5	58	2	17.8	854	1	42.9	682
MALLOMONAS	COL					0.4	19			
MELOSIRA GRANULATA	COL		0.6	15		0.8	39			X
MELOSIRA ITALICA	COL	3	11.9	277						X
MELOSIRA SPP.	COL								3.6	57
MERISMOPEDIA TENUISSIMA	COL					0.4	19		2.7	43
MICROCYSTIS #2	COL					3.2	155			
MICROCYSTIS INCERTA	COL				4	8.9	427		1.8	28
NAVICULA	COL		1.9	44		0.4	19			
NAVICULA CRYPTOCEPHALA	COL								1.8	28
NAVICULA EXIGUA	COL								1.8	28
OOCYSTIS	COL		1.2	29						X
OSCILLATORIA	FIL				3	12.6	602			
PHACUS	COL					0.4	19			
RAPHIDIOPSIS CURVATA	FIL		1.2	29						
SCENEDESMUS BIJUGA	COL		0.6	15		4.5	214	4	7.2	114
SCENEDESMUS LONGUS V. MINUTUS	COL			X						
SCENEDESMUS QUADRICAUDA	COL		0.6	15		0.4	19			X
STAURASTRUM	COL						X			
STEPHANODISCUS	COL		3.9	44			X		0.9	14
SYNEDRA	COL		3.9	44						
SYNEDRA #1	COL						X			
SYNEDRA #2	COL				1	6.5	311			
SYNEDRA ULNA	COL								0.9	14
SYNEDRA ULNA V. CHAEANA	COL		0.6	15						
TOTAL				2336			4793			1589

LAKE NAME: DALLAS LAKE
STORET NUMBER: 1845

NYGAARD TROPHIC STATE INDICES

DATE	05 04 73	08 03 73	10 12 73
MYXOPHYCEAN	01/0 E	07/0 E	4.00 E
CHLOROPHYCEAN	0/0 O	05/0 E	4.00 E
EUGLENOPHYTE	0/01 ?	0/12 ?	0/08 ?
DIATOM	0.57 E	0.60 E	1.33 E
COMPOUND	05/0 E	15/0 E	12.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 04 73	08 03 73	10 12 73
GENUS	06	06	05
SPECIES	04	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 04 73	08 03 73	10 12 73
AVERAGE DIVERSITY	H	2.90	3.31	2.85
NUMBER OF TAXA	S	16.00	26.00	25.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.00	4.70	4.64
TOTAL DIVERSITY	D	8195.40	7785.12	4272.15
TOTAL NUMBER OF INDIVIDUALS/ML	N	2826.00	2352.00	1499.00
EVENESS COMPONENT	J	0.73	0.70	0.61
MEAN NUMBER OF INDIVIDUALS/TAXA	L	176.63	90.46	59.96
NUMBER/ML OF MOST ABUNDANT TAXON	K	706.00	551.00	485.00

LAKE NAME: DALLAS LAKE
STORET NUMBER: 1845

CONTINUED

TAXA	FORM	05 04 73 IS	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 03 73 IS	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 12 73 IS	10 12 73 %C	10 12 73 ALGAL UNITS PER ML
AMPHIPORA	COL			X						
ANABAENA	FIL					7.0	164		1.9	29
ANABAENA SCHEREMETIEVI	FIL						X			
APHANIZOMENON FLOS-AQUAE	FIL				1	23.4	551	1	32.4	485
ASTERIONELLA FORMOSA	COL	3	15.1	426						
CERATIUM	COL						X			
CERATIUM HIRUNDINELLA F. GRACILIS	COL									X
CHLAMYDOMONAS	COL							4	6.7	100
CLOSTERIUM	COL									X
COCCONEIS	COL						X			
CRUCIGENIA TETRAPEDIA	COL								3.8	57
CRYPTOMONAS	COL		2.6	74		3.8	89	3	6.7	100
CYCLOTELLA	COL								3.8	57
CYCLOTELLA BODANICA	COL			X						
CYCLOTELLA GLOMERATA	COL									X
CYCLOTELLA MICHIGANIANA	COL						X			
CYMBELLA	COL			X			X			
DICTYOSPHAERIUM	COL				2	15.2	357			
DINOBRYON	COL					3.8	89			
DINOBRYON BAVARICUM	COL						X			X
DINOBRYON DIVERGENS	COL									X
DINOBRYON SOCIALE	COL	15	6.3	177						
DINOBRYON SPP.	COL							1	6.7	100
FLAGELLATE	COL					8.2	193	2	27.6	414
FLAGELLATE #1	COL		2.6	74						X
FLAGELLATE #2	COL									X
FLAGELLATES	COL		3.1	88						
FRAGILARIA	COL					0.6	15			
FRAGILARIA CONSTRUENS	COL						X			
FRAGILARIA CROTONENSIS	COL		5.2	147						X
FRAGILARIA INTERMEDIA	COL	2	24.0	677						
GOMPHOSPHAERIA ? APONINA	COL						X			
GYMNODINIUM	COL					1.9	45			
LAGERHEIMIA QUADRISETA	COL								1.9	29
LYNGBYA	FIL				1	8.2	193		3.8	57
MELOSIRA #4	COL	4	11.5	324						
MELOSIRA DISTANS	COL						X			
MELOSIRA ITALICA	COL			X						X
MICROCYSTIS INCERTA	COL				4	10.1	238		2.9	43
NAVICULA	COL									X
NAVICULA EXIGUA	COL					0.6	15			
OOCYSTIS	COL						X		0.9	14
OOCYSTIS SUBMARINA	COL					1.9	45			
OSCILLATORIA	FIL				1	12.7	298			
OSCILLATORIA TENUIS	FIL	1	25.0	706						
SCENEDESMUS BIJUGA	COL					1.3	30			
STEPHANODISCUS	COL						X		0.9	14
STEPHANODISCUS NIAGARAE	COL		4.2	118						
SYNEDRA ACUS	COL		0.5	15						X
TABELLARIA FENESTRATA	COL			X						
TETRASTRUM	COL									X
TETRASTRUM STAUROGENIAEFORME	COL					1.3	30			
TOTAL				2826			2352			1499

LAKE NAME: CLIN LAKE
STORET NUMBER: 1846

NYGAARD TROPHIC STATE INDICES

DATE	08 06 73	10 11 73
MYXOPHYCEAN	06/0 E	07/0 E
CHLOROPHYCEAN	03/0 E	01/0 E
EUGLENOPHYTE	0/09 ?	0/08 ?
DIATOM	1.50 E	01/0 E
COMPOUND	12/0 E	09/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 06 73	10 11 73
GENUS	03	00
SPECIES	02	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 06 73	10 11 73
AVERAGE DIVERSITY	H	2.76	2.50
NUMBER OF TAXA	S	20.00	16.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUN DIVERSITY	MAXH	4.32	4.00
TOTAL DIVERSITY	D	5586.24	1580.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	2024.00	632.00
EVENESS COMPONENT	J	0.64	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	101.20	39.50
NUMBER/ML OF MOST ABUNDANT TAXON	K	586.00	227.00

LAKE NAPÉ CLIN LAKE
STORET NUMBER: 1046

CONTINUED

TAXA	FORM	08 04 73 IS	08 04 73 BC	08 04 73 ALGAL UNITS PER ML	10 11 73 IS	10 11 73 BC	10 11 73 ALGAL UNITS PER ML
ANABAENA	FIL			X			X
APHANIZOMENON FLOS-AQUAE	FIL	13	9.6	195	4	9.3	59
CERATIUM HIRUNDINELLA F. GRACILIS	CEL			X			X
CHROCOCCUS DISPERSUS	COL			X			X
COCCOID CELL	CEL				3	35.9	227
COELOSPHAERIUM KAEGELIANUM	COL				11	10.9	69
CRYPTOMONAS EROSA	CEL		2.4	49	5	6.2	39
CYCLOTELLA	CEL					1.6	10
CYCLOTELLA MENEGHINIANA	CEL	4	8.4	171			
CYCLOTELLA MICHIGANIANA	CEL	1	29.0	586			
DICTYOSPHAERIUM EHRENBERGIANUM	COL		1.1	23			
DINOBRYON DIVERGENS	CEL			X			
DINOBRYON SOCIALE	CEL						X
FLAGELLATE	CEL						X
FLAGELLATE #1	CEL	15	10.9	220	2	28.2	179
FRAGILARIA CROTONENSIS	CEL			X			
LAGERHEIMIA QUADRISETA	CEL					1.6	10
LYNGBYA	FIL						X
LYNGBYA BIRGEI	FIL			X			
LYNGBYA CONTORTA	FIL					3.2	20
LYNGBYA LIMNETICA	FIL		4.8	98			X
MALLOMONAS ACAROIDES	CEL					1.6	10
PELOSIRA #4	CEL	2	25.3	512			
MICROCYSTIS INCERTA	COL		7.2	146			
NITZSCHIA #1	CEL			X			
OSCILLATORIA #1	FIL					1.6	10
PERIDINIUM	CEL			X			
PERIDINIUM INCONSPICUUM	CEL			X			
SCENEDESMUS BIJUGA	COL			X			
SCHROEDERIA SETIGERA	CEL		1.2	24			
TOTAL				2024			632

LAKE NAME: CLIVER LAKE
STORET NUMBER: 1847

NYGAARD TROPHIC STATE INDICES

DATE	08 06 73	10 11 73
MYXOPHYCEAN	03/0 E	09/0 E
CHLOROPHYCEAN	01/0 E	02/0 E
EUGLENOPHYTE	0.25 E	0.09 ?
DIATOM	0.75 E	0.25 ?
COMPOUND	08/0 E	13/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 06 73	10 11 73
GENUS	00	00
SPECIES	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 06 73	10 11 73
AVERAGE DIVERSITY	H	2.94	3.45
NUMBER OF TAXA	S	19.00	23.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.25	4.52
TOTAL DIVERSITY	D	2420.62	1342.05
TOTAL NUMBER OF INDIVIDUALS/ML	N	953.00	389.00
EVENESS COMPONENT	J	0.60	0.76
MEAN NUMBER OF INDIVIDUALS/TAXA	L	50.16	16.91
NUMBER/ML OF MOST ABUNDANT TAXON	K	456.00	53.00

LAKE NAME: OLIVER LAKE
STORET NUMBER: 1847

CONTINUED

TAXA	FORM	08 06 73			10 11 73		
		S	SC	ALGAL UNITS PER ML	S	SC	ALGAL UNITS PER ML
ANABAENA	FIL		2.1	20			X
ANKISTRODESMUS	CEL						X
APHANIZOMENON FLOS-AQUAE	FIL					4.6	10
BOTRYOCOCCUS BRAUNII	COL						X
CERATIUM HIRUNDINELLA	CEL		2.1	20			X
COELOSPHAERIUM NAEGELIANUM	COL					4.6	10
CRYPTOMONAS	CEL					4.6	10
CYCLOTELLA BODANICA	CEL			X			
CYCLOTELLA COMPTA	CEL					9.0	35
CYMBELLA	CEL			X			
DACTYLOCOCCOPSIS RHAPHIDI	CEL						X
DINOBRYON	CEL		2.1	20	12	13.6	53
DINOFLAGELLATE	CEL				5	9.0	35
EUGLENA	CEL					4.6	10
FLAGELLATE #1	CEL		4.2	40	3	13.6	53
FLAGELLATE #9	CEL		2.1	20			X
FLAGELLATES	CEL	2	18.9	170			
FRAGILARIA CROTONENSIS	CEL			X	1	13.6	53
GOMPHONEMA ACUMINATUM	CEL						X
GONIOSPHAERIA LACUSTRIS	COL	5	4.2	40	4	9.0	35
LYNGBYA	FIL		2.1	20		4.6	10
LYNGBYA BIRGEI	FIL						X
MALLOMONAS ACAROIDES	CEL		2.1	20			
MELOSIRA ITALICA	CEL			X			
MICROCYSTIS INCERTA	COL					9.0	35
NAVICULA	CEL			X			X
OOCYSTIS	CEL	3	8.3	79			
OSCILLATORIA	FIL						X
PERIDINIUM WISCONSINENSE	CEL	4	4.2	40			
STEPHANODISCUS	CEL	1	47.8	456			
SYNEDRA	CEL			X			X
TRACHELOMONAS	CEL			X			
TOTAL				933			389

LAKE NAME: SYLVAN LAKE
STORET NUMBER: 1848

NYGAARD TROPHIC STATE INDICES

DATE	05 10 73	08 03 73	10 12 73
MYXOPHYCEAN	3.00 E	0.83 E	1.60 E
CHLOROPHYCEAN	19.0 E	3.83 E	5.80 E
EUGLENOPHYTE	0.09 ?	0.14 ?	0.08 ?
DIATOM	1.17 E	2.00 E	02/0 E
COMPOUND	31.0 E	5.67 E	8.40 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 10 73	08 03 73	10 12 73
GENUS	15	09	13
SPECIES	06	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 10 73	08 03 73	10 12 73
AVERAGE DIVERSITY	H	4.08	2.70	2.75
NUMBER OF TAXA	S	42.00	45.00	52.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.39	5.49	5.70
TOTAL DIVERSITY	D	75994.08	27307.80	32227.25
TOTAL NUMBER OF INDIVIDUALS/ML	N	18626.00	10114.00	11719.00
EVENESS COMPONENT	J	0.76	0.49	0.48
MEAN NUMBER OF INDIVIDUALS/TAXA	L	443.48	224.76	225.37
NUMBER/ML OF MOST ABUNDANT TAXON	K	2984.00	5216.00	6612.00

LAKE NAME: SYLVAN LAKE
STORET NUMBER: 1848

CONTINUED

TAXA	FORM	05 10 73 S	05 10 73 BC	05 10 73 ALGAL UNITS PER ML	08 03 73 S	08 03 73 BC	08 03 73 ALGAL UNITS PER ML	10 12 73 S	10 12 73 BC	10 12 73 ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL		0.2	34						
ANABAENA	FIL				2	9.5	985			X
ANKISTRODESMUS	CEL		0.2	34						
APHANIZOMENON FLOS-AQUAE	FIL				3	12.4	1250		0.3	37
ASTERIONELLA FORMOSA	CEL		2.8	515						
CENTRIC DIATOM	CEL								0.6	73
CERATIUM HIRUNDINELLA	CEL						X			
CLOSTERIUM #1	CEL		0.4	69			X		1.3	147
CLOSTERIUM #2	CEL						X		0.3	37
COELASTRUM MICROPORUM	COL								1.3	147
COELASTRUM RETICULATUM	COL						X		2.8	931
COELASTRUM SPHAERICUM	COL			X		1.1	107			
COELOSPHAERIUM NAEGELIANUM	COL						X			
COSMARIUM	CEL								0.3	37
COSMARIUM #1	CEL						X			
COSMARIUM #2	CEL					0.4	36			
COSMARIUM BIPUNCTATUM	CEL					1.1	107			X
CRUCIGENIA APICULATA	COL					0.4	36		1.3	147
CRUCIGENIA TETRAPEDIA	COL						X			
CRYPTOMONAS	CEL	2	16.0	2984	5	3.2	322			
CRYPTOMONAS EROSA	CEL							5	3.8	441
CYCLOTELLA MENEGHINIANA	CEL		3.7	686						
CYMATOPLEURA	CEL						X			
CYMBELLA	CEL			X						
DICTYOSPHAERIUM PULCHELLUM	COL		1.1	206		0.4	36		0.3	37
DINOFLAGELLATE	CEL								0.3	37
EUGLENA	CEL			X		0.4	36			X
FLAGELLATE #1	CEL		4.2	789						
FLAGELLATES	CEL	5	6.4	1201		1.4	143		3.1	367
FRAGILARIA	CEL			X						
FRANCEIA	CEL		1.5	274		0.4	36		0.3	37
GOMPHOSPHAERIA LACUSTRIS	COL			X		0.4	36		0.6	73
KIRCHNERIELLA	CEL								1.9	220
KIRCHNERIELLA LUNARIS V. DIANAE	CEL									X
LAGERHEIMIA	CEL		0.2	34			X			
LYNGBYA LAGERHEIMII	FIL									X
MALLOMONAS	CEL								0.3	37
MELOSIRA #2	CEL		0.7	137						
MELOSIRA #4	CEL		4.2	789						
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL	4	5.2	961		0.4	36	2	6.8	771
MELOSIRA VARIANS	CEL			X						
MERISMOPEDIA TENUISSIMA	COL									X
MICRACTINIUM PUSILLUM	COL		3.5	652						X
MICROCYSTIS AERUGINOSA	COL									X
MICROCYSTIS INCERTA	COL		0.2	34						X
MOUGEOTIA	FIL						X			X
OOCYSTIS	CEL							4	4.6	771
OOCYSTIS CRASSA ?	CEL		2.6	480	4	6.0	607			X
OSCILLATORIA ANCENA	FIL							1	56.4	6612
OSCILLATORIA ANCENA ?	FIL	1	13.1	2436	1	51.8	5216			
PEDIASTRUM BORYANUM	COL		0.2	34			X			X
PEDIASTRUM DUPLEX V. RETICULATUM	COL		0.2	34			X		0.3	37
PEDIASTRUM SIMPLEX	COL								0.3	37
PEDIASTRUM TETRAS	COL			X						X
PEDIASTRUM TETRAS V. TETRADON	COL						X			
PENNATE DIATOM	CEL		0.6	103						
PERIDINIUM	CEL			X						
PHACUS	CEL						X		0.3	37
PHACUS HELIKOIDES	CEL					0.4	36		1.3	147
PHACUS PYRUM	CEL		0.2	34			X			
SCENEDESMUS #1	COL						X		2.2	257
SCENEDESMUS #2	COL									X
SCENEDESMUS ACUMINATUS	COL		2.0	377						
SCENEDESMUS ARCUATUS	COL									X
SCENEDESMUS BICAUDATUS	COL		0.2	34						
SCENEDESMUS BIJUGA	COL						X			
SCENEDESMUS BIJUGA V. FLEXUOSUS	COL		0.6	103			X			X
SCENEDESMUS DIMORPHUS	COL					0.4	36		0.3	37
SCENEDESMUS OPOLIENSIS	COL		4.2	789				3	4.4	514
SCENEDESMUS PROTUBERANS	COL					2.8	286			
SCENEDESMUS QUADRICAUDA	COL	3	10.5	1955		1.8	179		0.9	110
SCHROEDERIA SETIGERA	CEL						X			
STAURASTRUM #1	CEL					0.7	71		0.3	37
STEPHANODISCUS	CEL		7.4	1372		1.4	143			
STEPHANODISCUS ASTRAEA	CEL			X						
SYNEDRA #1	CEL		1.7	309						
SYNEDRA #2	CEL		0.9	172						
TETRAEDRON CAUDATUM	CEL			X			X			X

LAKE NAME: SYLVAN LAKE
STORET NUMBER: 1848

CONTINUED

TAXA	FORM	05 10 73 S	05 10 73 %C	05 10 73 ALGAL UNITS PER ML	08 03 73 S	08 03 73 %C	08 03 73 ALGAL UNITS PER ML	10 12 73 S	10 12 73 %C	10 12 73 ALGAL UNITS PER ML
TETRAEDRON CONSTRICTUM	CEL					0.4	36			X
TETRAEDRON PINIMUM	CEL		0.2	34						X
TETRAEDRON TRIGONUM	CEL					0.4	36		1.3	147
TETRASTRUM HETERACANTHUM	COL									X
TETRASTRUM STAUROGENIAEFORME	COL		5.2	961		2.8	286			X
TREUBARIA TRIAPPENDICULATA	CEL					0.4	36			
TREUBARIA TRIAPPENDICULATA ?	CEL									X
TROCHISCIA	CEL									X
TOTAL				18626			10114			11719

LAKE NAME: HOVEY LAKE
STORET NUMBER: 1849

NYGAARD TROPHIC STATE INDICES

DATE	08 11 73	10 19 73
MYXOPHYCEAN	9.00 E	3.50 E
CHLOROPHYCEAN	15.0 E	10.5 E
EUGLENOPHYTE	0.46 E	0.18 ?
DIATOM	0.50 E	0.60 E
COMPOUND	38.0 E	18.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 11 73	10 19 73
GENUS	23	20
SPECIES	07	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 11 73	10 19 73
AVERAGE DIVERSITY	H	2.94	3.17
NUMBER OF TAXA	S	55.00	51.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	5.78	5.67
TOTAL DIVERSITY	D	454644.54	418218.10
TOTAL NUMBER OF INDIVIDUALS/ML	N	154641.00	131930.00
EVENESS COMPONENT	J	0.51	0.56
MEAN NUMBER OF INDIVIDUALS/TAXA	L	2811.65	2586.86
NUMBER/ML OF MOST ABUNDANT TAXON	K	70272.00	35107.00

LAKE NAME: HOVEY LAKE
STORET NUMBER: 1849

CONTINUED

TAXA	FORM	08 11 73 S	08 11 73 BC	08 11 73 ALGAL UNITS PER ML	10 19 73 S	10 19 73 BC	10 19 73 ALGAL UNITS PER ML
ACTINASTRUM GRACILINUM	CEL		0.8	1208			
ACTINASTRUM HANTZSCHII	CEL					1.1	1478
ANABAENA	FIL			X			
ANABAENOPSIS CIRCULARIS	FIL	2	8.2	12685			
ANABAENOPSIS ELENKINII	FIL					1.5	2033
ANABAENOPSIS PHILIPPINENSIS	FIL					2.2	2956
ANKISTRODESMUS	CEL					0.6	739
ANKISTRODESMUS FALCATUS	CEL		2.6	4027			
CARTERIA	CEL						X
CHLAMYDOMONAS ?	CEL			X			
CHLOROGONIUM	CEL		0.8	1208		2.0	2587
CHRYSOCOCCUS	CEL					0.1	185
CLOSTERIUM	CEL		0.8	1208		0.1	185
COELASTRUM SPHAERICUM	COL						X
COSMARIUM	CEL						X
CRUCIGENIA APICULATA	COL						X
CRUCIGENIA TETRAPEDIA	COL			X			
CRYPTOMONAS	CEL					0.7	924
CRYPTOMONAS EROSA	CEL	4	4.4	6846			
CRYPTOMONAS OVATA	CEL						X
CYANOPHYTAN COCCOID CELLED COLONY	CEL						X
CYCLOTELLA	CEL		2.0	3020			
DICTYOSPHAERIUM PULCHELLUM	COL					0.3	370
DINOFLAGELLATE	CEL					0.3	370
EUGLENA	CEL			X	5	3.8	4989
EUGLENA ACUS	CEL			X			
EUGLENA FLAVA ?	CEL			X			
EUGLENA SPIROGYRA	CEL			X			
EUGLENA SPP.	CEL	5	2.6	4027			
FLAGELLATES	CEL					2.1	2772
FRUSTULIA RHOMBOIDES	CEL						X
GLENODINIUM	CEL		0.3	403			
GYMNODINIUM	CEL			X			
KIRCHNERIELLA	CEL		0.9	1410			X
MALLOMONAS	CEL			X			
MELOSIRA #4	CEL						X
MELOSIRA DISTANS	CEL					0.3	370
MELOSIRA GRANULATA	CEL			X			
MERISMOPEDIA	COL		1.3	2014			
MERISMOPEDIA TENUISSIMA	COL		1.7	2618		4.2	5543
MESOSTIGMA	CEL					0.4	554
MICROCYSTIS INCERTA	COL		0.3	403			
NAVICULA	CEL			X			X
NEIDIUM ?	CEL						X
NITZSCHIA	CEL			X			X
NITZSCHIA HOLSATICA	CEL			X			
OOCYSTIS	CEL		0.3	403			
OSCILLATORIA	FIL					0.3	370
OSCILLATORIA GEMINATA	FIL				2	18.3	24205
OSCILLATORIA LIMNETICA	FIL			X			
OSCILLATORIA SPP.	FIL	1	45.4	70272			
PEDIASTRUM DUPLEX	COL			X			
PENNATE DIATOM	CEL	3	16.0	27787		16.0	21064
PERIDINIUM	CEL		0.1	201			
PHACUS	CEL					0.1	185
PHACUS ACUMINATUS	CEL			X			
PHACUS PYRUM	CEL			X			X
PHACUS SPP.	CEL		1.0	1611			
PHACUS TRIQUETER	CEL			X			
QUADRICULA ?	CEL						X
RAPHIDIOPSIS CURVATA	FIL		2.5	3826	1	26.6	35107
SCENEDESMUS ABUNDANS	COL						X
SCENEDESMUS ACUTUS	COL					0.4	554
SCENEDESMUS ARCUATUS	COL					0.1	185
SCENEDESMUS BICAUDATUS	COL			X			
SCENEDESMUS BIJUGA	COL			X			
SCENEDESMUS DIMORPHUS	COL		0.4	604		1.0	1293
SCENEDESMUS INTERMEDIUS	COL						X
SCENEDESMUS QUADRICAUDA	COL		0.4	604		0.3	370
SCENEDESMUS SPINOSUS V. BICAUDATUS	COL						X
SCHROEDERIA SETIGERA	CEL		0.7	1007		0.6	739
SPIRULINA SPIRULINOIDES	CEL		0.4	604			
STEPHANODISCUS	CEL		0.7	1007	3	16.0	21064
SYNEDRA	CEL		2.3	3624			
SYNEDRA ULNA	CEL			X			
TETRAEDRON CAUDATUM	CEL						X
TETRAEDRON MINIMUM	CEL			X			

LAKE NAME: HOVEY LAKE
STORET NUMBER: 1849

CONTINUED

TAXA	FORM	08 11 73 S	08 11 73 SC	08 11 73 ALGAL UNITS PER ML	10 19 73 S	10 19 73 SC	10 19 73 ALGAL UNITS PER ML
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL			X			X
TETRAEDRON MUTICUM	CEL						X
TETRAEDRON PENTAEDRICUM	CEL						X
TETRAEDRON REGULARE V. INCUS	CEL						X
TETRAEDRON TRIGONUM	CEL			X			
TETRASTRUM STAUROGENIAEFORME	COL			X		0.4	554
TRACHELOMONAS	CEL					0.1	185
TRACHELOMONAS HISPIDA	CEL			X			
TRACHELOMONAS SCABRA	CEL			X			
TRACHELOMONAS SPP.	CEL		0.9	1410			
TRACHELOMONAS URCEOLATA	CEL		0.4	604			
TRACHELOMONAS VOLVOCINA	CEL			X			
TRACHELOMONAS VOLVOCINA V. PUNCTATA	CEL						X
TOTAL				154641			131930

LAKE NAME: VERSAILLES LAKE
STORET NUMBER: 1850

NYGAARD TROPHIC STATE INDICES

DATE	04 29 73	08 02 73	10 10 73
MYXOPHYCEAN	01/0 E	3.50 E	3.50 E
CHLOROPHYCEAN	0/0 O	5.50 E	5.00 E
EUGLENOPHYTE	0/01 ?	0.61 E	0.47 E
DIATOM	0.33 E	0.50 E	2.00 E
COMPOUND	04/0 E	16.0 E	14.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 29 73	08 02 73	10 10 73
GENUS	05	12	21
SPECIES	00	1	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 29 73	08 02 73	10 10 73
AVERAGE DIVERSITY	H	1.43	2.72	2.89
NUMBER OF TAXA	S	16.00	54.00	36.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.00	5.75	5.17
TOTAL DIVERSITY	D	3103.10	26658.72	69498.72
TOTAL NUMBER OF INDIVIDUALS/ML	N	2170.00	9801.00	24048.00
EVENESS COMPONENT	J	0.36	0.47	0.56
MEAN NUMBER OF INDIVIDUALS/TAXA	L	135.63	181.50	668.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	1223.00	4946.00	10228.00

LAKE NAME: VERSAILLES LAKE
STORET NUMBER: 1950

CONTINUED

TAXA	FORM	04 29 73			08 02 73			10 10 73		
		IS	BC	ALGAL UNITS PER ML	IS	BC	ALGAL UNITS PER ML	IS	BC	ALGAL UNITS PER ML
ANKISTRODESMUS ?	CEL						X			
ANKISTRODESMUS FALCATUS	CEL								1.1	276
APHANIZEMENON FLOS-AQUAE	FIL					0.5	49			X
CENTRIC DIATOM	CEL	4	2.4	52				2	10.7	2580
CHLAMYDOMONAS GLOBOSA	CEL					0.5	49			
CHLOROGONIUM MINIMUM	CEL				4	5.5	539			
CHLOROPHYTAN COCCOID COLONY	COL						X			
CHROOMONAS	CEL				3	14.0	1377			
CHRYSOPHYTAN COCCOID CELL	CEL									X
CLOSTERIUM	CEL					1.0	98			X
CLOSTERIUM #1	CEL						X			
COELASTRUM MICROPORUM	COL						X			
COSMARIUM	CEL									X
CRUCIGENIA TETRAPEDIA	COL								0.4	92
CRYPTOMONAS CURVATA ?	CEL	3	3.2	69						
CRYPTOMONAS EROSA	CEL	11	56.4	1223		1.0	98	3	6.9	1659
CYANOPHYTAN COCCOID CELLED COLONY	COL						X			
CYCLOTELLA	CEL						X		1.9	461
CYCLOTELLA MENEGHINIANA	CEL			X						
CYMBELLA VENTRICOSA	CEL						X			
CYMBELLA VENTRICOSA ?	CEL			X						
DACTYLOCOCCOPSIS	CEL					1.0	98			
DACTYLOCOCCOPSIS IRREGULARIS	CEL								3.8	921
EUGLENA #1	CEL								6.5	1566
EUGLENA #2	CEL									X
EUGLENA #3	CEL						X			
EUGLENA #4	CEL						X			
EUGLENA GRACILIS	CEL					1.0	98			
EUGLENA OXYURIS	CEL									X
FLAGELLATE #3	CEL				2	10.0	979			
FLAGELLATE #4	CEL						X			X
GLENODINIUM	CEL									
GLOEOCYSTIS GIGAS	COL						X			
GYMNODINIUM ORDINATUM	CEL					2.0	196			
GYROSIGMA	CEL			X						
LEPOCINCLIS FUSIFORMIS	CEL						X			
LYNGBYA LIMNETICA	FIL								1.1	276
MALLOMONAS ACAROIDES	CEL						X			
MELOSIRA #4	CEL					2.0	196		2.3	553
MELOSIRA DISTANS	CEL			X				3	10.7	2580
MEPISMOPEDIA TENUISSIMA	COL					2.0	196	14	7.7	1843
MESOSTIGMA VIRIDIS	CEL					1.0	98			
MICROCYSTIS AERUGINOSA	COL						X			
MICROCYSTIS INCERTA	COL						X		0.4	92
NAVICULA	CEL									X
NAVICULA #1	CEL		0.8	17			X			
NAVICULA #2	CEL			X			X			
NAVICULA #3	CEL			X						
NAVICULA DUBIUM	CEL			X						
NITZSCHIA #1	CEL			X						
NITZSCHIA #2	CEL					0.5	49			
NITZSCHIA #3	CEL					2.5	245			
OSCILLATORIA	FIL					0.5	49	11	42.5	10228
OSCILLATORIA LIMNETICA	FIL	12	35.7	775						X
PANDORINA MORUM	COL			X						
PEDIASTRUM BORYANUM	COL									X
PEDIASTRUM DUPLEX V. RETICULATUM	COL						X			
PERIDINIUM	CEL						X			
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS CAUDATUS	CEL									X
PHACUS CURVICAUDA	CEL					0.5	49			
PHACUS LONGICAUDA	CEL						X			
PHACUS PSEUDONORDSTEDTII	CEL						X			
PHACUS PYRUM	CEL									X
PHACUS TORTUS	CEL									X
SCENEDESMUS	COL						X			
SCENEDESMUS ACUMINATUS	COL						X			
SCENEDESMUS ARCUATUS	COL									X
SCENEDESMUS DENTICULATUS	COL						X			
SCENEDESMUS DIMORPHUS	COL						X		0.4	92
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL					0.5	49			
SCENEDESMUS INTERMEDIUS	COL									X
SCENEDESMUS QUADRICAUDA	COL					0.5	49		0.4	92
SPERMATOZOOPSIS EXULTANS	CEL						X			
SPHAEROPLEOPSIS ? FLUVIATILIS	CEL					0.5	49			
STEPHANODISCUS	CEL				11	50.5	4948			

LAKE NAME: VERSAILLES LAKE
STORET NUMBER: 1050

CONTINUED

TAXA	FORM	04 29 73			08 02 73			10 10 73		
		S	BC	ALGAL UNITS PER ML	S	BC	ALGAL UNITS PER ML	S	BC	ALGAL UNITS PER ML
SURIRELLA	CEL			X						
SYNEDRA	CEL				S	2.0	196		2.3	953
SYNEDRA #1	CEL	S	1.6	34						
TETRAEDRON MINIMUM	CEL									X
TETRASTRUM GLABRUM	COL					0.5	49			
TETRASTRUM STAUROGENIAEFORME	COL									X
TRACHELOMONAS BULLA	CEL						X			
TRACHELOMONAS CREBEA	CEL						X			
TRACHELOMONAS PLUVIATILIS	CEL						X			
TRACHELOMONAS PULCHELLA	CEL								0.8	184
TRACHELOMONAS URCEOLATA	CEL									X
TRACHELOMONAS VOLVOCINA	CEL						X			
TREUBARIA TRIAPPENDICULATA	CEL									X
TOTAL				2170			9801			24048

LAKE NAME: BASS LAKE
STORET NUMBER: 1851

NYGAARD TROPHIC STATE INDICES

DATE	05 02 73	08 03 73	10 13 73
MYXOPHYCEAN	5.67 E	3.75 E	2.40 E
CHLOROPHYCEAN	5.67 E	3.50 E	1.40 E
EUGLENOPHYTE	0/34 ?	0.07 ?	0.11 ?
DIATOM	0.12 ?	0.25 ?	0.07 ?
COMPOUND	12.0 E	8.25 E	4.40 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 02 73	08 03 73	10 13 73
GENUS	07	11	12
SPECIES	04	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 02 73	08 03 73	10 13 73
AVERAGE DIVERSITY	H	3.91	3.11	1.75
NUMBER OF TAXA	S	61.00	50.00	46.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	5.93	5.64	5.52
TOTAL DIVERSITY	D	32656.32	35892.51	70063.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	8352.00	11541.00	40036.00
EVENESS COMPONENT	J	0.66	0.55	0.32
MEAN NUMBER OF INDIVIDUALS/TAXA	L	136.92	230.82	870.35
NUMBER/ML OF MOST ABUNDANT TAXON	K	1420.00	5138.00	24890.00

LAKE NAME: BASS LAKE
STORET NUMBER: 1851

CONTINUED

TAXA	FORM	09 02 73			08 09 73			10 13 73		
		%	BC	ALGAL UNITS PER ML	%	BC	ALGAL UNITS PER ML	%	BC	ALGAL UNITS PER ML
ACHNANTHES	CEL			X						
ACHNANTHES ?	CEL									X
ANABAENA	FIL			X	33	2.1	246			X
ANABAENA #1	FIL					0.6	70			
ANABAENA #2	FIL								0.2	78
ANABAENA WISCONSINENSE ?	FIL								0.6	235
APHANIZOMENON ?	FIL			X						
APHANOCAPSA ELACHISTA	CEL			X					0.2	78
APHANOCAPSA ELACHISTA ?	CEL					2.7	317			
APHANOCAPSA SPP.	CEL		3.6	304						
APHANOTHECE	CEL		0.8	68						
APHANOTHECE CASTAGNEI ?	COL									X
APHANOTHECE GELATINOSA ?	CEL			X						
APHANOTHECE MIDULANS	CEL		1.6	135		3.0	352			
BOTRYOCOCCUS	COL			X						
CERATIUM HIRUNDINELLA F. FURCOIDES	CEL						X			X
CHLOROPHYTAN FILAMENT	FIL			X						
CHROOCOCCUS	COL					0.3	35		0.6	235
CHROOCOCCUS DISPERSUS	COL		0.8	68						
CHROOCOCCUS LIMNETICUS	COL			X						
CLOSTERIUM	CEL									X
COCCONEIS	CEL									X
COCCONEIS PLACENTULA V. LINEATA	CEL			X			X			
COELASTRUM CAMBRICUM	COL			X						
COELASTRUM SPHAERICUM ?	COL						X			
COSMARIUM	CEL								0.2	78
COSMARIUM #1	CEL		0.8	68						
COSMARIUM #2	CEL		1.6	135						
COSMARIUM #3	CEL					0.3	35			
CRUCIGENIA QUADRATA	COL		0.4	34						
CRYPTOMONAS EROSA	CEL	2	4.9	406						
CYANOPHYTAN COCCOID CELLED COLONY	CEL			X						
CYANOPHYTAN FILAMENT	FIL				5	9.5	1091			
CYCLOTELLA BODANICA	CEL			X						
CYMBELLA	CEL			X						
CYMBELLA CISTULA	CEL									X
CYMBELLA LAEVIS	CEL			X			X			
CYMBELLA TUMIDA	CEL			X						
DACTYLOCOCCOPSIS	CEL		1.2	101						X
DICTYOSPHAERIUM PULCHELLUM	COL					0.3	35			
DIACRONEMA SOCIALE	CEL		1.2	101						
ELAKATOTHRIX	COL			X						
EPITHEMIA	CEL			X						
EUGLENA	CEL					0.3	35			X
EUNOTIA	CEL			X						
EUNOTIA ARCUS ?	CEL									X
EUNOTIA PECTINALIS V. MINOR	CEL						X			
FLAGELLATE #1	CEL								0.2	78
FLAGELLATES	CEL		6.1	476	2	4.6	528		0.6	235
FRAGILARIA CONSTRUENS V. VENTER	CEL			X						
FRAGILARIA CROTONENSIS	CEL			X		0.6	70			
FRAGILARIA LEPTOSTAURON	CEL		3.2	270		0.3	35		0.4	157
GLENODINIUM	CEL							4	0.2	78
GLENODINIUM OCULATUM	CEL			X						
GOLENKINIA	CEL						X			
GOMPHONEMA ACUMINATUM	CEL									X
GOMPHOSPHAERIA LACUSTRIS V. COMPACTA	COL					1.8	211			X
GYROSIGMA	CEL			X						
HOLOPEDIUM ?	COL					0.3	35			
LYNGBYA	FIL							2	20.6	8244
LYNGBYA CONTORTA	FIL	11	15.0	1291	14	9.5	1091		2.4	942
LYNGBYA LIMNETICA	FIL				11	44.5	5138			
LYNGBYA LIMNETICA ?	FIL		6.9	575						
MALLOMONAS	CEL						X			
MELOSIRA	CEL					0.9	106			
MELOSIRA ITALICA	CEL			X						X
MERISMOPEDIA PUNCTATA	COL					1.2	141			
MICROCYSTIS	COL						X			
MICROCYSTIS AERUGINOSA	COL			X		1.2	141	3	0.2	78
MICROCYSTIS INCERTA	COL			X						
NAVICULA	CEL			X			X			X
NAVICULA AURORA	CEL			X						
NAVICULA AURORA ?	CEL									X
NAVICULA PUPULA V. RECTANGULARIS	CEL									X
NITZSCHIA	CEL					1.2	141			X
OOCYSTIS	CEL		2.8	237		1.2	141			

LAKE NAME: BASS LAKE
SYCRET NUMBER: 1851

CONTINUED

TAXA	FORM	05 02 73			08 03 73			10 15 73		
		%	BC	ALGAL UNITS PER ML	%	BC	ALGAL UNITS PER ML	%	BC	ALGAL UNITS PER ML
OSCILLATORIA LIMNETICA	FIL							11	62.21	24890
OSCILLATORIA LIMOSA	FIL	14	0.41	34			X			
PEDIASTRUM ANGULOSUM ?	COL			X						
PEDIASTRUM BORYANUM	COL		0.01	68		0.31	35			X
PEDIASTRUM DUPLEX	COL						X			
PEDIASTRUM INTEGRUM	COL						X			
PEDIASTRUM KAWRAISKY	COL			X						
PEDIASTRUM SIMPLEX V. DUODENARIUM	COL									X
PENIATE DIATOM	CEL		1.61	135						
PENIATE DIATOMS	CEL								0.61	235
PERIDINIUM	CEL					0.31	35			
PHACUS PYRUM	CEL						X			
PHORMIDIUM PUCICOLA	COL					0.31	35			
PINNULARIA	CEL									X
PINNULARIA VIRIDIS	CEL									X
RAPHIDIOPSIS	FIL			X						
RHIZOSPHENIA CURVATA	CEL			X						
SCENEDESMUS ABUNDANS	COL		4.01	338		0.61	70			X
SCENEDESMUS ACUTIFORMIS	COL			X						
SCENEDESMUS BALATONICUS	COL									X
SCENEDESMUS BIJUGA	COL	15	11.91	981			X		0.41	157
SCENEDESMUS DENTICULATUS V. LINEARIS	COL			X						
SCENEDESMUS OPOLIENSIS	COL		0.41	34						
SCENEDESMUS PROTUBERANS	COL					0.61	70			
SCENEDESMUS QUADRICAUDA	COL		1.21	101		0.31	35			X
SCENEDESMUS SPP.	COL		7.31	609		0.91	104			
SELENASTRUM	CEL						X			
STAURASTRUM #1	CEL						X			X
STAURASTRUM #2	CEL						X			X
STAURASTRUM #3	CEL						X			
STAURASTRUM TETRACERUM	CEL			X					0.21	78
STEPHANODISCUS	CEL						X			
SPIRELLA	CEL									X
SYNEDRA	CEL	13	17.01	1420		9.81	1126			
SYNEDRA RADIANS ?	CEL							15	16.01	4004
TETRAEDRON CAUDATUM	CEL			X					0.21	78
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL		2.01	169			X			
TETRAEDRON MINIMUM	CEL		0.41	34						
TETRAEDRON MINIMUM V. SCROBICULATUM	COL					0.31	35			
TRACHELOMONAS	CEL								0.21	78
TOTAL				8352			11941			40034

LAKE NAME: CROOKED LAKE
STORET NUMBER: 1852

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 04 73	10 15 73
MYXOPHYCEAN	05/0 E	2.67 E	05/0 E
CHLOROPHYCEAN	04/0 E	2.00 E	03/0 E
EUGLENOPHYTE	0.11 ?	0.14 ?	0/08 ?
DIATOM	0.37 E	0.50 E	0.11 ?
COMPOUND	13/0 E	6.33 E	09/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 04 73	10 15 73
GENUS	11	07	01
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 04 73	10 15 73
AVERAGE DIVERSITY	H	3.55	3.96	3.01
NUMBER OF TAXA	S	27.00	34.00	25.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.75	5.09	4.64
TOTAL DIVERSITY	D	10078.45	15851.88	5405.96
TOTAL NUMBER OF INDIVIDUALS/ML	N	2839.00	4003.00	1796.00
EVENESS COMPONENT	J	0.75	2.78	0.65
MEAN NUMBER OF INDIVIDUALS/TAXA	L	105.15	117.74	71.84
NUMBER/ML OF MOST ABUNDANT TAXON	K	571.00	509.00	480.00

LAKE NAME: CROOKED LAKE
STORET NUMBER: 1052

CONTINUED

TAXA	FORM	05 03 73 UI	05 03 73 SC	05 03 73 ALGAL UNITS PER ML	08 04 73 UI	08 04 73 SC	08 04 73 ALGAL UNITS PER ML	10 15 73 UI	10 15 73 SC	10 15 73 ALGAL UNITS PER ML
ANABAENA	FIL					4.6	105		1.7	31
APHANIZOMENON FLOS-AQUAE	FIL		9.4	210	11	12.7	309		0.9	16
APHANOCAPSA	COL						X			
APHANOTHECE	COL									X
ASTERIONELLA FORMOSA	CEL	3	10.6	301						X
BOTRYOCOCCUS	COL		0.9	15						
CHLAMYDOMONAS	CEL			X						
CHROOCOCCUS	COL					9.2	208			
CLOSTERIUM	CEL					0.6	23			
COCCOID CELL	CEL								3.5	62
COCCONEIS	CEL						X			
COELASTRUM PICROPORUM	COL						X			
COELOSPHAERIUM	COL			X		0.6	23		1.7	31
CROOKERIUM	CEL						X			
CRUCIGENIA TETRAPEDIA	COL					3.5	139			
CRYPTOMONAS	CEL		4.2	120		2.9	116	2	18.9	340
CRYPTOMONAS EROSA	CEL						X			
CYANOPHYTAN PILASPEN*	FIL	2	13.2	376						X
CYCLOTELLA	COL						X			
CYMBELLA	CEL			X					0.9	16
DINOBRYON	CEL	1	28.1	971					1.7	31
DINOBRYON SOCIALE	COL									X
DINOBRYON SOCIALE ?	CEL				4	11.6	463			
EUGLENA #1	CEL					0.6	23			
FLAGELLATE #1	CEL	4	9.0	255				3	22.4	402
FLAGELLATE #2	CEL		2.6	75				1	26.7	480
FLAGELLATES	CEL					2.9	116			
FRAGILARIA CONSTRUENS	COL				3	6.9	278			X
FRAGILARIA CROTONENSIS	CEL		6.9	195		4.0	162	4	7.7	139
FRAGILARIA INTERMEDIA	CEL									X
GYMNODINIUM ALBULUM	CEL		1.4	45						
GYROSIGMA KUTZINGII	CEL									X
LAGERHEIMIA QUADRISETA	CEL					5.2	208			
LYNGBYA	FIL			X		5.2	208			
MALLOMONAS	CEL			X				3	2.6	46
MELOSIRA	CEL	3	10.1	286						
MELOSIRA GRANULATA	CEL					1.1	46			
MELOSIRA ISLANDICA	CEL								5.2	93
MICROCYSTIS INCERTA	COL				3	11.6	463			
NAVICULA	CEL						X			
NAVICULA SPP.	CEL		2.1	60						
NITZSCHIA SIGMOIDEA	CEL			X						
OOCYSTIS	CEL			X						
OOCYSTIS SUBMARINA	CEL								1.7	31
OSCILLATORIA	FIL		1.7	105						
OSCILLATORIA LIMOSA	FIL						X			
PERIDINIUM INCONSPICUUM	CEL						X			
PERIDINIUM PENAPCIFORME	CEL					0.6	23			
PHACUS ?	CEL			X						X
PINNULARIA	CEL			X						
SCENEDESMUS ABUNDANS	COL					2.3	00093			
SCENEDESMUS BIJUGA	COL			X		0.6	23			X
SCENEDESMUS QUADRICAUDA	CEL								3.5	62
SCHROEDERIA	CEL					0.6	23			
STAURASTRUM	CEL			X						
STEPHANODISCUS	CEL					0.6	23			
STEPHANODISCUS DUBIUS	CEL		1.1	30						
STEPHANODISCUS NIAGARAE	CEL		2.6	75		2.9	116			
SYNEDRA #1	CEL		4.2	120	2	12.7	509			
SYNEDRA #2	CEL								0.9	16
SYNEDRA ULNA	CEL									X
TABELLARIA FENESTRATA	CEL					0.6	23			
TETRAEDRON MINIMUM	CEL						X			
TRACHELOMONAS VOLVOCINA	CEL									
TOTAL				2839			4803			1796

LAKE NAME: LAKE JAMES
STORET NUMBER: 1853

NYGAARD TROPHIC STATE INDICES

DATE	05 02 73	08 04 73	10 15 73
MYXOPHYCEAN	1.00 E	09/0 E	04/0 E
CHLOROPHYCEAN	3.00 E	04/0 E	02/0 E
EUGLENOPHYTE	0/04 ?	0/13 ?	0/06 ?
DIATOM	0.33 E	0.50 E	2.00 E
COMPOUND	6.00 E	14/0 E	08/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 02 73	08 04 73	10 15 73
GENUS	01	02	01
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 02 73	08 04 73	10 15 73
AVERAGE DIVERSITY	H	2.63	3.39	2.88
NUMBER OF TAXA	S	16.00	22.00	16.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.00	4.46	4.00
TOTAL DIVERSITY	D	4975.96	4986.69	3257.28
TOTAL NUMBER OF INDIVIDUALS/ML	N	1892.00	1471.00	1131.00
EVENESS COMPONENT	J	0.66	0.76	0.72
MEAN NUMBER OF INDIVIDUALS/TAXA	L	118.25	66.86	70.69
NUMBER/ML OF MOST ABUNDANT TAXON	K	496.00	218.00	337.00

LAKE NAME: LAKE JAMES
STORET NUMBER: 1853

CONTINUED

TAXA	FORM	05 02 73 S	05 02 73 BC	05 02 73 ALGAL UNITS PER ML	08 04 73 S	08 04 73 BC	08 04 73 ALGAL UNITS PER ML	10 15 73 S	10 15 73 BC	10 15 73 ALGAL UNITS PER ML
ANABAENA	FIL					2.4	36			X
APHANIZOMENON FLOS-AQUAE	FIL	5	6.6	124	4	5.0	73		1.8	20
ASTERIONELLA FORMOSA	CEL	11	26.2	495						
CERATIUM HIRUNDINELLA F. AUSTRIACUM	CEL						X			
CHLAMYDOMONAS ?	CEL								3.5	40
CHLOROPHYTAN COCCOID CELL	CEL			X						
CLOSTERIUM	CEL			X						
COCCONEIS	CEL			X						
COELOSPHAERIUM	COL						X	1	8.8	99
CRYPTOMONAS	CEL					3.7	54	4	8.8	99
CRYPTOMONAS EROSA	CEL	2	9.8	186						
CYANOPHYTAN COCCOID CELLED COLONY	CEL						X			X
CYCLOTELLA	CEL					7.4	109		7.0	79
CYCLOTELLA COMPTA	CEL		3.3	62						
CYCLOTELLA STELLIGERA	CEL									X
CYMBELLA	CEL			X		1.2	18			
DICTYOSPHAERIUM	COL			X						
DINOBRYON SOCIALE	CEL							2	29.8	337
DINOBRYON SOCIALE V. AMERICANUM	CEL					12.4	182			
FLAGELLATE	CEL									X
FLAGELLATE #1	CEL	4	18.0	341	2	13.6	200			
FLAGELLATE #2	CEL				3	13.6	200	3	22.8	258
FRAGILARIA CROTONENSIS	CEL		8.2	155		5.0	73			
FRAGILARIA INTERMEDIA	CEL			X						
GLENODINIUM	CEL							5	3.5	40
LAGERHEIMIA LONGISETA	CEL						X			
LYNGBYA BIRGEI	FIL						X			
LYNGBYA SUBTILIS ?	FIL					8.6	127			
MALLOMONAS ALPINA	CEL									X
MERISMOPEDIA TENUISSIMA	COL				5	11.1	163			
MICROCYSTIS	COL				1	14.8	218			
MICROCYSTIS INCERTA	CEL						X			
OOCYSTIS	CEL						X			
PENNATE DIATOM	CEL								10.5	119
PERIDINIUM INCONSPICUUM	CEL						X			
SCENEDESMUS BIJUGA	COL					1.2	18		1.8	20
SCHROEDERIA	CEL	3	25.4	481						
SPHAEROCYSTIS SCHROETERI	COL			X						
STEPHANODISCUS	CEL			X						
TABELLARIA FENESTRATA	CEL		2.5	47						
TETRAEDRON MINIMUM	CEL						X		1.8	20
TOTAL				1892			1471			1131

LAKE NAME: LONG LAKE
STORET NUMBER: 1854

NYGAARD TROPHIC STATE INDICES

DATE	08 06 73	10 13 73
MYXOPHYCEAN	02/0 E	01/0 E
CHLOROPHYCEAN	03/0 E	03/0 E
EUGLENOPHYTE	0.20 ?	0/04 ?
DIATOM	0.50 E	0.75 E
COMPOUND	07/0 E	07/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 06 73	10 13 73
GENUS	01	00
SPECIES	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 06 73	10 13 73
AVERAGE DIVERSITY	H	1.32	2.67
NUMBER OF TAXA	S	11.00	15.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.46	3.91
TOTAL DIVERSITY	D	5177.04	1188.15
TOTAL NUMBER OF INDIVIDUALS/ML	N	3922.00	445.00
EVENESS COMPONENT	J	0.38	0.68
MEAN NUMBER OF INDIVIDUALS/TAXA	L	356.55	29.67
NUMBER/ML OF MOST ABUNDANT TAXON	K	2961.00	159.00

LAKE NAME: LONG LAKE
STORET NUMBER: 1854

CONTINUED

TAXA	FORM	09 06 73 S	09 06 73 BC	09 06 73 ALGAL UNITS PER ML	10 13 73 S	10 13 73 BC	10 13 73 ALGAL UNITS PER ML
AMPHORA	CEL						X
APHANIZOMENON FLOS-AQUAE	FIL		0.6	25			
ASTERIONELLA FORMOSA	CEL						X
CERATIUM HIRUNDINELLA	CEL				3	10.8	48
COELASTRUM RETICULATUM	COL				5	7.2	32
COELOSPHAERIUM NAEGELIANUM	COL						X
CRYPTOMONAS	CEL	4	1.9	76	2	14.2	63
CYANOPHYTAN FILAMENT	FIL		6.5	253			
CYCLOTELLA	CEL						X
EUGLENA ACUTISSIMA	CEL			X			
FLAGELLATE #1	CEL				1	35.7	159
FRAGILARIA CROTONENSIS	CEL	1	75.5	2961		7.2	32
FRAGILARIA PINNATA	CEL			X			
MALLOMONAS	CEL	5	1.3	51	4	14.2	63
MELOSIRA	CEL					3.6	16
MELOSIRA GRANULATA	CEL	2	11.6	455			X
NAVICULA	CEL						X
PEDIASTRUM DUPLEX	COL						X
SCENEDESMUS ARCUATUS	COL			X			
SCHROEDERIA SETIGERA	CEL		1.9	76		7.2	32
TETRASTRUM STAUROGENIAEFORME	COL		0.6	25			
TOTAL				3922			449

LAKE NAME: PIGEON LAKE
STORET NUMBER: 1855

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 06 73	10 15 73
MYXOPHYCEAN	01/0 E	2.00 E	5.00 E
CHLOROPHYCEAN	0/0 O	0/01 O	8.00 E
EUGLENOPHYTE	2.00 E	0/02 ?	0.23 E
DIATOM	0/05 ?	1.00 E	0.50 E
COMPOUND	03/0 E	3.00 E	18.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 06 73	10 15 73
GENUS	00	01	12
SPECIES	00	00	09

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 06 73	10 15 73
AVERAGE DIVERSITY	H	2.01	0.81	3.52
NUMBER OF TAXA	S	14.00	9.00	39.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	3.81	3.17	5.29
TOTAL DIVERSITY	D	2528.58	3428.73	12893.76
TOTAL NUMBER OF INDIVIDUALS/ML	N	1258.00	4233.00	3663.00
EVENESS COMPONENT	J	0.53	0.26	0.67
MEAN NUMBER OF INDIVIDUALS/TAXA	L	89.86	470.33	93.92
NUMBER/ML OF MOST ABUNDANT TAXON	K	687.00	3696.00	1071.00

LAKE NAME: PIGEON LAKE
STORET NUMBER: 1855

CONTINUED

TAXA	FORM	05 03 73 IS	05 03 73 EC	05 03 73 ALGAL UNITS PER ML	08 06 73 IS	08 06 73 EC	08 06 73 ALGAL UNITS PER ML	10 15 73 IS	10 15 73 EC	10 15 73 ALGAL UNITS PER ML
ANABAENA	FIL									X
ANKISTRODESMUS FALCATUS	CEL								3.1	113
APHANIZOMENON	FIL									X
APHANIZOMENON FLOS-AQUAE	FIL				3	1.3	55		1.9	70
ASTERIONELLA FORMOSA	CEL	4	9.1	114						
CERATIUM HIRUNDINELLA	CEL									X
CERATIUM HIRUNDINELLA F. AUSTRIACUM	CEL								1.1	42
CERATIUM HIRUNDINELLA F. PEDUNCENSE	CEL				22	7.0	296			
CHLAMYDOMONAS	CEL									X
CHLORELLA VULGARIS	CEL								10.0	366
CHLOROGONIUM	CEL			X						
CLOSTERIUM	CEL					0.4	19			X
COCCONEIS	CEL						X		0.8	28
COELASTRUM RETICULATUM	COL									X
CRYPTOMONAS	CEL				5	0.9	37			
CRYPTOMONAS CURVATA	CEL								3.1	113
CRYPTOMONAS EROSA	CEL	2	14.8	186						X
CRYPTOMONAS SPP.	CEL							1	29.2	1071
CYANOPHYTAN FILAMENT	FIL	1	1.1	14						
CYCLOTELLA	CEL							2	11.5	423
DINOBRYON	CEL				4	1.7	74	3	9.2	338
DINOBRYON SOCIALE	CEL			X						X
FLAGELLATE #1	CEL	1	54.6	687						X
FLAGELLATE #2	CEL	3	13.7	172						
FRAGILARIA CROTONENSIS	CEL							4	7.3	268
FRAGILARIA INTERPEDIA	CEL			X						X
FUSIFORM CELL	CEL								0.8	28
GOMPHONEMA	CEL			X						
GYMNODINIUM	CEL								3.1	113
GYMNODINIUM ALBULUM	CEL	1	1.1	14						
LEPOCINCLIS FUSIFORMIS V. MAJOR	CEL									X
LYNGBYA	FIL								0.4	14
MALLOMONAS ACAROIDES	CEL									X
MALLOMONAS ALPINA	CEL									X
MALLOMONAS CAUDATA	CEL									X
MALLOMONAS SPP.	CEL							15	5.8	211
MELOSIRA GRANULATA	CEL				11	97.3	3696		2.7	99
NAVICULA	CEL	1	1.1	14					0.8	28
NITZSCHIA	CEL			X						
OSCILLATORIA	FIL					0.4	19			
OSCILLATORIA TENUIS	FIL								3.5	127
PERIDINIUM	CEL					0.9	37			
PERIDINIUM PUSILLUM	CEL								1.1	42
PHACUS LONGICAUDA	CEL									X
PHACUS ORBICULARIS	CEL			X						
SCENEDESMUS	COL									X
SCENEDESMUS ARCUATUS	COL									X
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL								0.8	28
SCHROEDERIA	CEL									X
SPHAEROCYSTIS SCHROETERI	COL								0.4	14
TRACHELOMONAS	CEL								3.5	127
TRACHELOMONAS PULCHELLA	CEL	19	4.5	57						
TOTAL				1258			4233			3663

...KE NAME: MARSH LAKE
STORET NUMBER: 1855

NYGAARD TROPHIC STATE INDICES

DATE	08 06 73	10 15 73
MYXOPHYCEAN	5.00 E	4.00 E
CHLOROPHYCEAN	1.00 E	2.00 E
EUGLENOPHYTE	0/06 ?	0/06 ?
DIATOM	1.00 E	0.50 E
COMPOUND	7.00 E	7.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	08 06 73	10 15 73
GENUS	06	05
SPECIES	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		08 06 73	10 15 73
AVERAGE DIVERSITY	H	2.56	0.80
NUMBER OF TAXA	S	12.00	16.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.58	4.00
TOTAL DIVERSITY	D	1016.32	9180.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	397.00	11475.00
EVENESS COMPONENT	J	0.72	0.20
MEAN NUMBER OF INDIVIDUALS/TAXA	L	33.08	717.19
NUMBER/ML OF MOST ABUNDANT TAXON	K	124.00	9824.00

LAKE NAME: PARRY LAKE
STOREY NUMBER: 1856

CONTINUED

TAXA	FORM	09 06 73 IS	09 06 73 BC	09 06 73 ALGAL UNITS PER ML	10 11 73 IS	10 11 73 BC	10 11 73 ALGAL UNITS PER ML
ANABAENA #1	FIL	14	12.6	50	5	0.2	22
APHANIZOMENON FLOS-AQUAE	FIL	1	6.3	25	12	6.9	1027
CERATIUM HIRUNDINELLA	CEL				1		X
CLOSTERIUM	CEL			X	1		X
CRYPTOMONAS EROSA	CEL				33	4.1	489
CYCTOSPHAERIUM PULCHELLUM	COL				1		X
FRAGILARIA CROTONENSIS	CEL			X	11	95.6	9824
FUSIFORM CELL	CEL				1		X
GLOEOCYSTIS AMPLA	COL	11	31.2	124			
GLOEOCYSTIS GIGAS ?	COL				1	0.2	22
MALLOMONAS ACARCIDES	CEL	15	6.3	25			
MALLOMONAS APOCHROMATICA	CEL						X
MALLOMONAS CAUDATA	CEL			X	1	0.2	22
MELOSIRA GRANULATA	CEL						X
MELOSIRA ITALICA	CEL	12	18.6	74			
MICROCYSTIS INCERTA	COL	1	6.3	25			
NAVICULA GASTRUM	CEL						X
OOCYSTIS	CEL				1	0.2	22
OOCYSTIS BORGEI	CEL			X			
OSCILLATORIA	FIL	13	18.6	74			
OSCILLATORIA #1	FIL						X
OSCILLATORIA TENUIS	FIL				14	0.6	67
OSCILLATORIA TENUIS ?	FIL			X			
TOTAL				397			11475

LAKE NAME: HAMILTON LAKE
STORET NUMBER: 1857

NYGAARD TROPHIC STATE INDICES

DATE	05 03 73	08 04 73	10 13 73
MYXOPHYCEAN	01/0 E	9.00 E	5.00 E
CHLOROPHYCEAN	02/0 E	3.00 E	2.00 E
EUGLENOPHYTE	0/03 ?	0.33 E	0/07 ?
DIATOM	0.43 E	0.33 E	0.22 ?
COMPOUND	06/0 E	17.0 E	9.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 03 73	08 04 73	10 13 73
GENUS	01	08	01
SPECIES	00	04	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 03 73	08 04 73	10 13 73
AVERAGE DIVERSITY	H	2.50	3.14	3.18
NUMBER OF TAXA	S	18.00	29.00	24.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.17	4.86	4.58
TOTAL DIVERSITY	D	1460.00	10581.80	3443.94
TOTAL NUMBER OF INDIVIDUALS/ML	N	584.00	3370.00	1083.00
EVENESS COMPONENT	J	0.60	0.65	0.69
MEAN NUMBER OF INDIVIDUALS/TAXA	L	32.44	116.21	45.13
NUMBER/ML OF MOST ABUNDANT TAXON	K	195.00	995.00	244.00

LAKE NAME: HAMILTON LAKE
STORET NUMBER: 1857

CONTINUED

TAXA	FORM	05 03 73 IS	05 03 73 SC	05 03 73 ALGAL UNITS PER ML	08 04 73 IS	08 04 73 SC	08 04 73 ALGAL UNITS PER ML	10 13 73 IS	10 13 73 SC	10 13 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL								4.2	46
ANABAENA	FIL					1.0	35		4.2	46
ANKISTRODESMUS FALCATUS	CEL									X
APHANIZOMENON FLOS-AQUAE	FIL	1	33.4	195		3.1	105	4	9.9	107
ARTHROSPIRA GOMONTIANA	FIL						X			
ASTERIONELLA FORMOSA	CEL	3	5.5	32						X
CERATIUM HIRUNDINELLA	CEL									X
CERATIUM HIRUNDINELLA F. GRACILIS	CEL						X			
CHROOCOCCUS DISPERSUS	COL							3	8.4	91
CHRYSOPHYTAN COCCOID CELL	CEL						X			
CLOSTERIUM	CEL									X
COCCOID CELL	CEL	4	13.9	81	2	26.4	890			
COCCONEIS	CEL			X						X
CRUCIGENIA TETRAPEDIA	COL					1.0	35			
CRYPTOMONAS EROSA	CEL			X		2.1	70		5.6	61
CYCLOTELLA	CEL			X						
CYMBELLA #1	CEL									X
CYMBELLA #2	CEL									X
CYMBELLA ASPERA	CEL			X						
CYMBELLA VENTRICOSA	CEL			X						
DICTYOSPHAERIUM PULCHELLUM	COL								5.6	61
DINOBRYON BAVARICUM	CEL						X			
DINOBRYON SOCIALE	CEL									X
EPITHEMIA	CEL									X
EUGLENA	CEL						X			
EUGLENA SPIROGYRA V. ELEGANS	CEL						X			
FLAGELLATE #1	CEL	3	19.5	114		2.1	70		4.2	46
FLAGELLATE #9	CEL									X
FRAGILARIA	CEL			X						X
FRAGILARIA CROTONENSIS	CEL				3	5.7	192	2	18.3	198
GLENODINIUM EDAX	CEL					1.0	35			
GYMNODINIUM ALBULUM	CEL		2.7	16						
LYNGBYA LIMNETICA	FIL							1	22.5	244
MALLOMONAS ACAROIDES	CEL					0.5	17			
MELOSIRA ITALICA	CEL	2	19.5	114			X		4.2	46
MERISMOPEDIA TENUISSIMA	COL				5	7.2	244			
MICROCYSTIS AERUGINOSA	COL				4	5.2	175			
MICROCYSTIS INCERTA	COL					2.1	70	3	12.7	137
MICROSPORA Y STAGNORUM	FIL			X						
NAVICULA #1	CEL			X						
NITZSCHIA #1	CEL		2.7	16						
OSCILLATORIA #1	FIL					5.2	175			
OSCILLATORIA LIMOSA	FIL					0.5	17			
OSCILLATORIA TENUIS	FIL				1	29.5	995			
PEDIASTRUM BORYANUM	COL			X						
PEDIASTRUM DUPLEX	COL						X			
PENNATE DIATOM	CEL					4.2	140			
PHACUS #1	CEL					1.0	35			
RHOPALODIA GIBBA	CEL									X
SCENEDESMUS QUADRICAUDA	COL			X			X			
STAURASTRUM	CEL						X			
STEPHANODISCUS	CEL									X
STEPHANODISCUS NIAGARAE	CEL		2.7	16						
SYNEDRA	CEL					2.1	70			
TRACHELOMONAS UPCROLATA	CEL						X			
TOTAL				584			3370			1083

☆U.S. GOVERNMENT PRINTING OFFICE: 1978 - 786-153/1268 Region No. 9-1